

A STUDY OF THE RELATIONSHIP BETWEEN INDIVIDUAL MOTIVATION  
AND LEVEL OF TEAM DEVELOPMENT

by

Donald J. Furman

KATHLEEN HENRY, Ph.D., Faculty Mentor and Chair

JAMES KROLIK, Ph.D., Committee Member

HADI SALAVITABAR, Ph.D., Committee Member

Kurt Linberg, Ph.D., Dean, School of Business & Technology

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## Abstract

Teamwork has become a primary vehicle utilized by organizations to improve effectiveness, and high-performance teams are considered to be the ultimate form of team. While individuals have been relied upon to accomplish the mission of organizations for many years, the team initiative is a veritable newborn in comparison. To derive the most significant benefits from human resources, motivation of the individual worker has been studied in great detail, and seminal works have developed revolving around team motivation. Another area of great importance to organizations, although yet to be studied, is the relationship between individual motivation and membership in a high-performance team environment. This study will examine that relationship in order to determine factors that motivate the individual worker as their team moves towards attaining the status of high-performance.

## Dedication

I dedicate this work to my wife Noreen, and our children Jessica and Don, whose constant support and devotion allowed me to pursue this accomplishment. Quietly and unselfishly you took on all of the family responsibilities allowing me to focus on this lifelong dream. For this I will be forever grateful and without you this would not have been possible.

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## CHAPTER 1. INTRODUCTION

In the latter portion of the twentieth century several entrepreneurial organizations began a revolution that changed the workplace and the manner in which work was accomplished. Up until that time, work revolved around the individual worker, with individual duties, responsibilities, and accountability, regardless of the task at hand. The organizations that first used teams found that this initiative provided quantifiable benefits for both the organization and the team members themselves, and this was the beginning of a mass indulgence in the use of teamwork throughout organizations throughout the United States.

Organizations began to embrace teamwork for a multitude of reasons, including the belief that teams would save money, improve communication, produce higher quality goods and services, and make better use of resources (Ketchum & Trist, 1992; Katzenbach & Smith, 1993; Robbins & Finley, 2000). In addition, it was proposed that the use of teams would increase productivity (Ketchum & Trist, 1992; Katzenbach & Smith, 1993), lead to higher-quality decisions (Ketchum & Trist, 1992), improve processes (Katzenbach & Smith, 1993), and in general, be the solution to performance problems (Ketchum & Trist, 1992; Katzenbach & Smith, 1993; Robbins & Finley, 2000). This was not, however, always the case. Although many teams added value to an organization, quite frequently the teams were less effective and efficient than individuals performing the work in the traditional fashion. Unfortunately, many organizations did not recognize that teams were not successful, as they did not adequately measure the performance; rather, organizations made the assumption that employing teams ensured

success. Researchers began to study the use of teams in the workplace, and considerable quantitative data was generated and analyzed. As problems were uncovered, different types of teams were identified, each with their own attributes and purposes. Gradually, organizations came to realize that teams must be assembled with a purpose and methodology in mind if the team was expected to attain the organization's desired goals and initiatives (Katzenbach & Smith, 1993).

One type of team that has developed over time, and is often regarded as the most desirable form of team, is the high-performance work team, whose members are highly motivated to accomplish the defined mission of the team as well as being personally committed to the team members as individuals. Many organizations have instituted a high-performance initiative to take full advantage of the synergy and performance attached to this type of team; however, they have not instituted the appropriate frameworks or training to attain high-performance status. Simply calling a team “high-performance,” however, does not make it so. It takes time for a team to come together as a cohesive unit meeting all the requirements of a high-performance team. As problems have developed with so-called high-performance teams, researchers have studied many aspects of high-performance, though the majority of the literature is directed towards creating and maintaining the high-performance model (Katzenbach & Smith, 1993).

It is important to introduce a framework for team development, taking into account that teams are not often implemented at the high-performance level; rather, through a developmental process. Katzenbach and Smith (1993) developed the team performance curve, a descriptive tool for measuring the level of team development and

performance based on key team attributes. The team performance curve was developed through the use of existing team research, interviews with hundreds of teams in many different organizations, along with past experiences of the researchers. In all cases, Katzenbach and Smith focused on groups in the workplace that may or may not have been teams. Peters (1997) expanded on the team performance curve, developing a quantitative team performance survey to measure team performance in relation to a team's relative position within Maslow's Hierarchy of Needs. In both the team performance curve and the team performance survey, teams are classified as a working group, pseudo team, potential team, real team, or high-performance team. The team performance survey will be further discussed in chapter 2.

Individual motivation has been studied for more than fifty years, beginning with the seminal works of Maslow (1943), McClelland, Atkinson and Clark (1953), Herzberg (1959), Vroom (1964), and others. Many studies have been conducted on the best means of motivating a team, both high-performing and otherwise (Locke, 1966; Katz & Kahn, 1968; Lawler, 1981; Pritchard, Jones, Roth, Stuebing, & Ekeberg, 1988). The bulk of these studies have revolved around quantifiable data; significant results have created valuable models to motivate individuals and to create a team that is highly motivated towards achieving specific organizational results. Research to this point has not yet considered individual motivation and its relationship to high-performance team membership.

### Statement of the Problem

Organizations are challenging workers with belonging to one or more high-performing teams in addition to their individual job responsibilities. Managers choose workers to belong to high-performing teams in hopes of developing an enhanced level of motivation within the team. The assumption is that these workers will be highly motivated in the team environment while maintaining or improving the required motivation for their individual assignments and roles in the organization. If this assumption holds true it represents an opportunity for the organization; however, if it does not hold true it represents a problem for the organization. The question that arises is how individual motivational factors are impacted as the team moves closer to high-performance and does belonging to a high-performance team truly inspire a higher level of individual performance. This study will address this issue as a potential opportunity for managers to utilize team membership as a motivational tool to improve individual performance.

### Purpose of the Study

As organizations strive to implement the concept of teamwork, and as those teams progress along a continuum to high-performance, the individual worker is stretched in many directions. Considering that most team members have individual organizational responsibilities in addition to their team assignments, the question arises as to the motivation of that individual worker. The definition Katzenbach and Smith propose for a high-performance team will be used throughout this research and is based on the

definition of a "real team" developed by the same authors. A real team is "a small number of people with complementary skills who are equally committed to a common purpose, goals, and working approach for which they hold themselves mutually accountable" (1993, p. 92). A high-performance team "is a group that meets all the conditions of real teams, and has members who are also deeply committed to one another's personal growth and success" (1993, p. 92). The definition of both a real team and a high-performance team require that members possess strong motivation towards the goals and objectives of the team; however, what impact does that team membership have on the motivation towards individual assignments? The purpose of this study is to investigate how membership in a high-performing team impacts the individual motivation of a team member. Additional objectives include determining the most significant motivators and how an organization can use these to best maintain a high level of individual motivation within a worker that belongs to one or several high-performing teams. These objectives will be met utilizing a quantitative study of current employees of several organizations that have seen considerable success using high-performing teams with the goal of identifying specific motivational elements that make a great team player an excellent individual worker as well. The rationale for using the definitions of Katzenbach and Smith will be discussed in chapter 2.

Organizations claim to have been successful with the use of high-performing teams for a number of years (Katzenbach & Smith, 1993), and to remain successful and improve on that success, it is often reasonable to question the reasons for that success. Upon exploring the success, factors contributing to that success can be reinforced and



implemented in other teams within the organization; factors that inhibit success can be modified to improve performance. Along the same line of thinking, questioning the motivation of team members in terms of their team and individual assignments should be an equally valuable exercise as well.

The results of this study will provide an organization with a better understanding of the motivational and human relations issues that drive both team and individual motivation, allowing leaders to proactively address the issue of motivating the individual worker to perform their best in all organizational roles.

#### Definition of Terms

Before engaging in the research of teams, it is necessary to define exactly what a team is. The literature contains many definitions of the term team, as defined by many different authors. Researchers such as Bucchald and Roth (1989), Salas, Dickinson, Converse, and Tannenbaum (1992), Katzenbach and Smith (1993), Robbins and Finley (2000), MacMillan (2001), LaFasto and Larson (2001), Harris (2003), and others have all defined the term team within their respective publications.

*High-Performance Team.* The definition Katzenbach and Smith propose for a high-performance team will be used throughout this research and is based on the definition of a "real team" developed by the same authors. A real team is "a small number of people with complementary skills who are equally committed to a common purpose, goals, and working approach for which they hold themselves mutually accountable" (1993, p. 92). A high-performance team "is a group that meets all the conditions of real

teams, and has members who are also deeply committed to one another's personal growth and success" (1993, p. 92). The commitment of team members goes beyond the team itself, including to the individual members of the team and the personal goals and objectives of these individuals. High-performance team performance will constantly exceed that of other teams and will also outperform expectations that have been set for the team. Examples of other definitions of team and high-performance team, along with the reasoning for using the definitions offered by Katzenbach and Smith will be addressed in Chapter 2.

*Instrumental Motivation.* Instrumental motivation provides extrinsic, tangible rewards for certain desired behaviors, most often in the form of pay, promotion, and bonuses.

*Intrinsic Process Motivation.* Intrinsic process motivation is provided by the work itself; some people are motivated to perform their best work simply because they enjoy doing so.

*Self-Concept External Motivation.* Self-concept external motivation impacts a worker when they seek affirmation of traits, competencies, and values from outside or external perceptions of reference groups.

*Self-Concept Internal Motivation.* Self-concept internal motivation is applicable for the inner-directed worker. Rather than seeking external affirmation from reference groups, these workers tend to set their own internal standards of traits, competencies, and values. The worker will be motivated by behaviors that reinforce these standards.

*Goal-Internalization Motivation.* Goal-internalization motivation occurs when attitudes and behaviors are consistent with personal values, so the worker is motivated to achieve the goals while reinforcing their personal values.

### Research Questions

This study will address the following questions:

1. What is the relationship between lower levels of team development and the motivation of the individual team member towards their individual work assignments?

H1: Individuals belonging to working groups and pseudo teams will be more individually motivated by extrinsic motivational sources than by intrinsic motivational sources or goal internalization.

2. Is there a correlation between being a highly motivated high-performance team member and being a highly motivated individual worker?

H2: Individuals belonging to high-performing teams will be more individually motivated by goal internalization than by extrinsic motivational sources

3. As a team progresses through the various stages of team development, is there a relationship between the stages of development and the significant motivational factors of the team member towards their individual work assignments?

H3: As a working group moves along the continuum to becoming a high-performance team, the source of individual motivation will move in the direction of goal internalization.

### Significance of the Study

With organizations focusing more and more attention on the use of teams to improve the quantity and quality of work, it is important to understand whether team membership impacts the motivation of the individual team member, assuming that most team members have organizational duties beyond the responsibilities of their team. The findings from this research will address a void in the current body of knowledge concerning high-performing teams and the motivational factors encountered by the individuals that are team members. In addition, conclusions from this study will increase the knowledge surrounding best practices for organizations to utilize in motivating teams and team members. Team members should benefit from this study as well, allowing a team member to understand their motivation as it relates to team initiatives as well as their own personal responsibilities to the organization.

This research adds new knowledge of how the motivation of an individual is impacted as a team moves closer to high-performance. Motivation will be demonstrated in terms of: (a) the motivational factors that are most impactful as the team moves along the continuum of high-performance, (b) the motivation to perform at a higher level as a team member, and (c) the motivation to perform at a higher level as an individual employee with responsibilities beyond the scope of the team.

### Assumptions and Limitations

This study proposes to examine the relationship between individual motivation and high-performance team membership. It therefore assumes that a relationship exists. In addition, this study proposes that the motivational factors change as a team moves closer to high-performance assuming that a relationship exists between the team development continuum and motivational factors. As this study is descriptive and correlative in nature, differences noted in the research are assumed to occur as a result of these suggested relationships.

This study utilizes information from team members in one or more organizations. It is assumed that these teams are indeed teams, and it is also assumed that the relationship between individual motivation and team membership is similar between organizations.

This study will survey between 350 and 800 team members and it is assumed, therefore, that these team members accurately represent the overall population of team members.

The topic of this study is relatively new and is limited by several factors. As little past research has examined the impact of team membership on individual motivation, the literature is focused on other aspects of team membership and motivation, and assumptions are drawn to utilize this information. This study is limited and restricted based on the researcher's choice of the definition of a high-performance team as well as the application of that definition to chosen organizations.

In addition, the results of this study may be limited by the reliance on the perceptions of the individuals surveyed. Motivational factors are individual by nature, and impartial data is not available or relevant to this topic.

Another limitation of this study revolves around the organizational development and support of the team and high-performance team initiative. The extent of support provided by the organization during development and execution of team functions could be a variable of impact to the results of this study.

Finally, survey participants responding to questionnaires are potentially susceptible to the Hawthorne Effect, which states in essence that respondents may be impacted and influenced in their responses simply due to the fact that they are participating in a study (Cooper & Schindler, 2003).

#### Organization of the Remainder of the Study

A brief description of the process steps in this dissertation:

1. Literature review and analysis. In this step, scholarly articles, books, and other external sources will be surveyed to provide an overview of the significant and related literature available on this topic.
2. Collection, review, and evaluation of organizational training documents and materials to create a baseline understanding of the high-performance team initiation process.
3. Surveys will be administered to research participants.
4. Data will be coded and organized for analysis.

5. Correlation research will be used to determine if a relationship exists between the motivational factors of importance to the individual and how these factors change as the team approaches high-performance. Descriptive and ex post facto research will be used to address what the relationship is (if it exists) and motivating factors as well.
6. Analysis and summary of quantitative study outcomes and identification of future research opportunities will complete the study. The survey instruments will be confidential and anonymous; they will be stored by the researcher at his residence for seven years after publication of the completed dissertation and then destroyed.

### Expected Outcomes

There are several general outcomes that may come from this study, each with significance to the organization. It is possible that all employees are equally motivated to perform at their best in both high-performance team assignments and individual assignments. Although this would be a surprising outcome, it would offer insight to the factors needed to maintain the current environment and to indoctrinate new employees. It is also possible, however, that individuals are more motivated in their team environments (due to particular motivators) than in their individual assignments. Conversely, they may be more motivated in their individual work than in team assignments. In either case, this research will offer insight to the lack of motivation as well as guidelines to improve situations where motivation is lacking.

The primary expected outcome of this research is that team membership will improve individual motivation on the first level (as a team member) and on the second level as well (as an individual employee with tasks beyond the scope of the team). As the individual becomes more a part of the team initiative there will be an increase in the motivation to perform well in all tasks, including individual tasks, to earn respect for the team.

A secondary expected outcome is that team membership will improve motivation on the first level (or as a team member), while decreasing motivation on the second level (as an individual employee with tasks beyond the scope of the team). Due to the organizational emphasis on team membership and high-performance, both personal and peer pressure will be dominant forces driving the employee to achieve high levels of performance in the team setting. It is expected that in some cases the demands of the team or teams in terms of time, energy, and other resources will inhibit motivation to excel in individual assignments. A similar expectation based on the utilization of resources is that an employee may lack high motivation both as a team member and as an individual in order to meet the basic demands of both job roles while excelling at neither.

It is anticipated that the factors driving individual motivation will progress along a continuum that parallels the continuum of the team that is developing towards high-performance.

From a practical point of view, this study will look into the motivational and human relation issues that face managers, teams, and individuals. By developing a better understanding of how team membership impacts individual motivation towards non-team



responsibilities, involvement by leadership on a pre-eminent level will effect and improve the motivation of individuals in the organization. Identifying the most significant motivational factors will allow the team to focus on appropriate motivators to achieve the highest degree of individual motivation. The best organizations today realize that they cannot operate in a dynamic environment with blinders on; rather, they must seek to understand, learn, and change to maintain their success in the future.

The enhanced understanding of the motivational and human relations issues studied will assist in maximizing individual performance as well as enhancing team performance. "Increasing competition forces companies to search for greater effectiveness and efficiency in the workplace. Therefore the distinguishing factor in performance lies with the untapped potential of the workforce" (Grazier, 1998, p.21). Many of the most successful organizations today maintain their success by continually questioning and adjusting the way they conduct their business; this study will offer insight to maintain and improve the success that is seen in this organization with their high-performing teams and the individual performance of team members as well.

## CHAPTER 2. LITERATURE REVIEW

### Introduction

Extensive research has been conducted on the topics of motivation and work environments since the coming of the Industrial Revolution. One of the most often utilized methods of encouraging effective and efficient results has been the use of teamwork, and it is often taken for granted that the use of teams results in more highly motivated employees. Although the assumption that more efficient and effective results will be produced by teamwork has been tested and proven to some degree, little research has been conducted to link a more motivated employee to team membership. Is it true that belonging to a team does, in fact, motivate employees? Once an employee is a team member are they more motivated in their individual non-team assignments? If so, as a team moves closer to high-performance, do the factors that motivate an individual team member change as a result?

There is a rather substantial and growing body of knowledge addressing the topic of individual motivation, and there is an equally impressive body of knowledge discussing teamwork. There has also been some research, although not extensive, on the topic of team motivation; however, to this point there is a distinct lack of literature discussing the relationship between team membership and individual motivation, and how the motivational factors change in relation to the stage of team development.

This literature review provides an overview of the broad topics of teamwork and motivation, through both historical and current theories and research. The broad topic of

teamwork is then further refined into organizational and high-performance teamwork, while motivation is further refined to individual and team motivation.

### Teamwork

To discuss the subject of teamwork in organizations, it first must be recognized that the word "team" is relatively new to the world of organizations. This is not to say that teams have not been used in organizations; rather, teams have been used but were called by another name. Therefore, the research is not consistent in terminology, but the results are valuable and relevant regardless. Before discussing the attributes of teams and the research that has been conducted on teamwork, it is necessary to define exactly what a team is. Selected definitions of the term team follow.

Lao Tzu, a renowned philosopher and military leader from the sixth century BC, is often quoted for his observations on the importance and workings of armies and leaders:

As for the best leaders, the people do not notice their existence. The next best, the people honour and praise. The next, the people fear; and the next, the people hate. When the best leader's work is done, the people say, "we did it ourselves" (Hoenig, 2000, p. 149).

This ancient writing describes the outlook on military leadership in 600BC. According to Lao Tzu, the best leaders were in the background, performing facilitation and maintenance functions to support and enhance the team abilities. Although not much

different than what one would expect to hear in an organization today, the view of teams, leadership, and motivation has undergone many changes and variations since the time of Lao Tzu.

Bucchald and Roth (1989) defined a team in the context of the work group relationship, stating that true teamwork occurs in situations where the performance of the team relies on the performance of each individual member, that teamwork is more than togetherness. Further, they stated that in high-performance teams the members will "pull together, help each other out, recognize and complements each other's strengths and weaknesses, and share a belief that they are responsible to each other" (Bucchald & Roth, 1989, p. 40).

Salas, Dickinson, Converse, and Tannenbaum (1992) offered the following definition of a team: "A distinguishable set of two or more people who interact, dynamically, interdependently, and adaptively toward a common and valued goal/objective/ mission, who have been assigned specific roles or functions to perform and have a limited life span of membership" (p.4).

Katzenbach and Smith (1993) developed a definition that distinguishes a team from any group of people with a common purpose or assignment: "a team is a small number of people with complementary skills who are committed to a common purpose, performance goals, and approach for which they hold themselves mutually accountable" (p. 43). In addition, they noted that as the team concept has evolved over the years, organizations assumed that the team concept would allow for greater knowledge

acquisition, higher performance, as well as additional innovation and problem solving, with substantially less formal leadership needed.

Robbins and Finley (2000) entered into their research with the most basic definition of a team, stating that "a team is easily defined: *people doing something together*" (ital. in original, p. 7). To further clarify their definition, the authors note that the something is not important; rather the together part is paramount.

The majority of work in teams to this point came from academic researchers. Pat MacMillan (2001), a consultant on teams and leadership, authored a book with some practical insights that enhanced the existing literature. Rather than beginning with a formal definition of team, MacMillan offered that the team in today's organization can mean many things. In sports, for example, the team exists solely because the rules of the game provide for teams, regardless of the overall performance. In business, on the other hand, a team is expected to provide outstanding performance. MacMillan suggests that the traditional concept of teamwork as being a group of people with a common purpose is not really a team, since many groups that are not teams exhibit a commitment to the same purpose. Additionally, definitions that include mutual accountability, complementary skills, and communication are inadequate, as these traits are found in non-team groups as well. MacMillan concludes that any team should be defined by performance, and that the purpose of any team is to "accomplish an objective and to do so at exceptionally high levels of performance" (MacMillan, 2001, p. 25).

The thought that using teams of individuals to accomplish complex organizational tasks makes intuitive sense, considering that the shared knowledge and ability would lead

to both better and quicker solutions. Steiner (1972) found that although the use of teams has increased, the potential and synergy that surround the team concept are not always utilized or realized, and this was supported by a large amount of research into the subject.

Hagen (1985) developed six key attributes of successful teams: (a) In all actions, demonstrate respect for all employees as valued members of the team, (b) Identify individual job responsibilities and performance standards and see that they are known, (c) Work to secure good communications with employees as individuals and as a team, (d) Establish individual and group goals, preferably in coordination with those concerned, (e) Reward teamwork and team building efforts, and (f) Practice and encourage loyalty to the team.

Francis and Young (1992) proposed that a team will exhibit the following characteristics: (a) Conflict–challenge, openness and veracity among members, (b) Discipline–accept policy when needed, (c) Energy–feed off of the motivation of others, (d) Learning–Use experiences to learn how to better work with each other, (e) Methodology–disciplined problem solving techniques, (f) Objectives–shared and considered the mission of the group, (g) Output–high standards to finish the job with strong results (h) Structure–control leadership, roles, procedures, and organization (i) Mutual support–encourages respect, support, and enjoyment, and (j) Team-member fulfillment–psychological rewards. Although Francis and Young's work addressed work groups, many of the criteria mentioned would apply to the definition of a high-performance team as well.

Drew and Coulson-Thomas (1997) suggested that successful teams are enabled by a number of factors at the individual, team, and organizational levels. Team empowerment and self-management are important for a team to take advantage of the synergies created among the members, interacting with the assignment without interference. Team selection and formation with a focus on the assignment at hand allows for the appropriate use of resources and capabilities. Focus on the people, including people issues and support for training and leadership, reinforces the importance of the team to both the organization and the leadership. Technology is considered a facilitating factor, using e-mail, groupware, and telecommunications to expedite the communication process. Support for the team initiative, including a team approach for the organization, improves the working environment for the high-performance team while simultaneously improving the resources and skills of the entire organization. Rewards, both tangible and symbolic, are important for motivation and recognition. Finally, removing the team from the dominant bureaucracy allows for more interaction with others in the organization as well as more direct communication with all workers related to the assignment.

McMillan (2001) noted that in addition to carefully managing the creation of and selection of a team, an organization also must be concerned about the proper development of that team. There are five components to effective team development, including orientation (both individually and collectively as a team), defining the task (including mission and roles), developing mission critical team processes and skills, building relationships, and on-going evaluation and development (McMillan, 2001).

Lee (1990) summed it up by saying, “work teams and the potential they hold for producing wondrous results are being billed as the productivity breakthrough of the ‘90s. There’s certainly little doubt that their popularity is on the rise” (p. 26).

### The High-Performance Team

Something extraordinary began to happen as the work got under way. Thousands of ordinary men and women who had been competent workers—project managers, secretaries, technicians—suddenly became super-achievers, doing the best work of their lives. Within 18 months, our section moved its performance rating from the bottom 50 percent to the top 15 percent. “Want to know why we’re doing so well?” our manager asked me. He pointed to the pale moon, barely visible in the eastern sky. “People have been dreaming about going there for thousands of years. *And we’re going to do it.*” (Charles Garfield as cited in Buchholz & Roth, 1989, ital. in original, p. 1).

Charles Garfield worked in a high-performance team as a programmer with the Grumann Aerospace Company during the early days of the Apollo space mission. Specifically, he describes his experience related to building the Apollo 11 Lunar Module, the first manned spacecraft to land on the moon.

In his seminal work, *The Fifth Discipline*, Dr. Peter Senge of MIT said:



Most of us at one time or another have been part of a great “team,” a group of people who functioned together in an extraordinary way—who trusted one another, who complemented each other others’ strengths and compensated for each others’ limitations, who had common goals that were larger than individual goals, and who produced extraordinary results. I have met many people who have experienced this sort of profound teamwork—in sports, or in the performing arts or in business. Many say that they have spent much of their life looking for that experience again. What they experienced was a learning organization. The team that became great didn’t start off great—it learned how to produce extraordinary results (1990, p. 214).

As work groups and teams became more commonplace in the work environment, managers and team members alike found that some teams consistently outperformed others. Although a good deal of research has found that properly using the team initiative lends to better decision making and superior results, occasionally a team would reach far beyond expectations.

Peter Vaill first mentioned the "high-performance system" in the eight assumptions and 47 hypotheses developed following a lecture by Eric Trist at the Wharton School, University of Pennsylvania, on November 1, 1972. His work was devoted to answering the question:

When a group of men using some collection of technologies is performing, in relation to some predefined goals or standards, in a way that may be described as

“excellent” or “outstanding” or “high performing,” what events may be observed in such systems? (McCall & Lombardo, 1978, p. 104).

Prior to developing hypotheses about the issues that are taking place in high-performing systems, eight underlying assumptions were developed:

1. Most, if not all studies of work systems are related to employees – members of the system that most likely are not there voluntarily;
2. Organizational research revolves around problems; in specific, what can be done to improve the overall performance of the organization;
3. As issues in the system that cause poor performance and results are uncovered, it is possible to draw from these findings appropriate means to improve performance;
4. Evaluations of work systems is comparative in nature, comparing one "successful" system to another that is not as successful;
5. Research looks at either human or nonhuman components with broad assumptions regarding the components not being studied;
6. The system itself is defined by the organizational standards already in place; the system itself is not the subject of study nor is it the empirical question of the study;
7. Research findings address the observed discrepancies between what is expected to be happening in the system and what is actually happening, with the standard of what is expected to be happening as the standard;

8. It is assumed that it is desirable to improve and increase coordination and integration throughout the organization in an effort to improve performance to the standard (McCall & Lombardo, 1978).

The 47 hypotheses on high-performance systems are delineated in full in Appendix A. Taking these assumptions and hypotheses into account, Vaill considered the question: "to what extent are we inadvertently managing our organizations today in a way that prevents the emergence of the particular condition to which the hypotheses refers" (McCall & Lombardo, 1978, p. 115). An understanding of why some systems attain "high-performance" while others do not can be drawn from the answers to this question and can be utilized to increase overall organizational performance. Vaill continued his research into high-performance systems bringing about a new approach to using teams within organizations.

Early research, following on the research of Vaill, was conducted by Bucchald and Roth (1987). A list of attributes for a successful high-performance team was developed: (a) Participative leadership—everyone is empowered for interdependency, (b) Shared responsibility—all members are responsible for the team outcome, (c) Aligned on purpose—common purpose of function throughout, (d) High communication—trust and open communication, (e) Future focused—seeing change as an opportunity, (f) Focus on task—towards achieving results, (g) Creative talents—taking advantage of individual talents, and (h) Rapid response—being able to react and take advantage of opportunity.

In 1988, Colgate-Palmolive started a plant in Cambridge, Ohio that became a model for high-performance teams in organizations. The plant made use of cross-

functional problem solving teams as well as self-directed teams, and all work within the plant was accomplished utilizing teamwork. The teams were autonomous, handling entire processes and functions within the plant including planning, scheduling, work-methods, selection, and training. In addition, the teams did not have formal leaders; rather, leadership within the teams was undertaken by all team members, and contact with the remainder of the organization was handled on a rotating basis among team members. This plant became standard within Colgate-Palmolive for operational efficiency and continuous product improvement (Wellins, 1994).

In 1992, Kerzner developed another list of effective team attributes, which defines the high-performance team that we strive for today. A high-performance team requires: (a) team members must be committed to the project, (b) the team must have good interpersonal relations and team spirit, (c) the team and its members must have the required expertise and resources, (d) goals must be clearly defined, (e) management must be supportive and involved, (f) the leadership of the team must be appropriate, (g) communication must be open between members and support personnel and organizations, and (h) there must be a sincere interest in the personal growth and success of team members.

Some rather interesting research by Kets De Vries (1999) used Pygmy society as an example for the dynamics of successful high-performance teams. His observations, which he considered to be lessons for organizations implementing a high-performance team structure, were as follows: (a) members must respect and trust each other, (b) members must protect and trust each other, (c) members should engage in open dialogue

and communication, (d) members share a strong common goal, (e) members must have strong shared values and beliefs, (f) members must subordinate their own objectives to those of the team, and (g) members need to subscribe to "distributed" leadership.

Although there are very few Pygmy societies left in the world, a good deal of the understanding of these societies can act as a proxy for a high-performing organization.

Ken Blanchard, the One-Minute Manager, and his associates developed a list of seven characteristics of successful high-performing teams: (a) Purpose and values—"I know what I have to do and the team's goals are clear," (b) Empowerment—"everyone takes some responsibility for leadership," (c) Relationships and communication—"there is active participation by everyone," (d) Flexibility—"I feel appreciated and supported by others," (e) Optimal performance—"team members listen when I speak," (f) Recognition and appreciation—"different opinions are respected," and (g) Morale—"we enjoy working together and we have fun" (Blanchard, Carew, & Parisi-Carew, 2000, p. 10).

Pat McMillan (2001) developed six criteria for a successful high-performance team. The most important condition for success is a common purpose, with every team member working towards that same goal. Team members must have crystal clear goals, with each member understanding their role and the roles of other team members. Leadership of the team must be accepted as well as being competent and clear. The processes for the team must be clearly designed and effective. Team members do not have to be close friends—rather, due to the diversity needed in an effective team, the members must be trusting, accepting, respectful, courteous, and understanding of the

others in the team. Finally, communication must be strong, with straight talk and no miscommunication.

LaFasto and Larson (2001) discussed the relationship aspect of teamwork, considering that relationships define the high-performing team. They noted that four elements are needed for good relationships: (a) relationships are constructive, (b) productive, (c) characterized by mutual understanding, and (d) self-corrective. Subsequent research into the high-performance culture has consistently discussed the relationships that form and are sustained in the successful high-performance team.

Ammeter and Dukerich (2002) studied high-performance teams in research and development, and through the use of interviews assembled a list of themes present in the most successful teams. A strong team orientation was found to be most important, with critical leadership behaviors supporting the team initiative. Communication, both formal and informal was an absolute necessity. Team meetings were noted in many interviews as being of the utmost importance, as to keep members informed of progress and problems. Buy-in to the assignment is needed, and when tied to personal success, was a motivational tool as well. In addition, team perks and compensation linked to team performance were considered motivational as well. The interviews revealed that location was important with all members working in the same place, implying that the use of virtual high-performance teams may not be appropriate. Formal team building techniques were also considered valuable, as was training for the use of teams. Finally, support for the team from the leadership and organization was identified as a defining factor in the success or failure of a team.

The research of Katzenbach and Smith (1993), the recognized experts in the study of teamwork, proposes that a high-performance team "is a group that meets all the conditions of real teams, and has members who are also deeply committed to one another's personal growth and success," with a "real team" being "a small number of people with complementary skills who are equally committed to a common purpose, goals, and working approach for which they hold themselves mutually accountable" (p. 92). The specific attributes that Katzenbach and Smith propose for a high-performance team follow: (a) there is a strong commitment toward achieving the performance goals of the team, (b) a strong commitment to the personal growth and success of the team members, (c) the skills of team members are complementary and interchangeable, (d) there is a mutual accountability among team members, (e) there are specific and complete approaches towards problem solving, (f) the performance goals are attainable but demanding, (g) the final product generally exceeds both requirements and expectations, (h) team members feel a strong motivation to provide their maximum efforts to achieve the team goals, and (i) the members feel that the team experience and the team work is particularly rewarding.

After reviewing the many definitions for team and high-performance team, the definitions of Katzenbach and Smith were chosen for use in this research, for several reasons. The authors have published their research on the subject of teams, spanning more than two decades, in both books and peer-reviewed journals. In addition, the authors are cited in the majority of current literature reviewed, and are often referred to within the literature as experts by their peers. Katzenbach and Smith provide definitions

that are clear and unambiguous, which will allow for descriptive questions within the survey instrument to clearly define if a respondent does, indeed, belong to a team. Finally, the definition that Katzenbach and Smith suggest for a high-performance team concurs with that of James F. Peters, the author of the Team Performance Survey used in the this research.

### *Comparing and Contrasting the High-Performance Team with other Teams*

Teams come and teams go; some teams are effective and some teams are ineffective. What distinguishes the effective team from the ineffective team? Successful teams are impassioned by what they do, the task at hand, and a vision that pushes them forward in their efforts. Teams have to be trusting, and communicate openly with one another. They have tools in place to provide and receive feedback, while both recognizing and utilizing the differences of the members. In the long run, they recognize the synergy that develops when individuals come together (Mink, Mink, & Owen, 1987).

Synergism is the "simultaneous actions of separate entities which together have greater total effect than the sum of their individual effects" (Bucchold & Roth, 1989, p. 2). A high-performance team is going to strive for performances such that  $2 + 2 = 5$ . In other words, the impact and influence of a high-performance team is going to be greater than the individual input of each of the members. The challenge facing the high-performance team is then to create situations where the team can achieve more than each team member can contribute individually.



Katzenbach and Smith (1993) offered that "teams outperform individuals acting alone or in larger organizational groupings, especially when performance requires multiple skills, judgments, and experience" (p. 9). In addition, the high-performance team "being more firmly and mutually committed to tangible performance results can more readily leverage their combined skills to achieve objectives beyond the reach of less tightly-bound collections of individuals" (p. 11). From these statements came the most current studies of high-performing teams and organizations.

Mary Ellen Collins (1995) conducted an extensive study of high-performance teams and focused on the factors that allowed them to be successful. The following characteristics described successful teams throughout the research:

1. they exhibit behaviors similar to those of newly converted members of a religion or an elite club,
2. they have significant organizational support and in turn strongly support the organization,
3. they are the in-house change agents and are continually shifting the way business is done,
4. they have tremendous influence both inside and outside the organization, and
5. they are the primary vehicle for involvement and leadership for those populations who may be underrepresented in many organizations (p.25).

Research into teams within organizations began, in earnest, in the early 1990s. This research found that many initiatives were in place in organizations for their teams,

but there was little training or support for those teams. In fact, the primary objective in many organizations was becoming a team and working like a team, without mention or concern for the performance that was the initial motivation behind the use of teams.

Katzenbach and Smith (1993) stated that a high-performance team must have "a small number of people with the required skills, purpose, goals, approach, and accountability" and "what sets apart high-performance teams, however, is the degree of commitment, particularly how deeply committed the members are to one another" (p. 65).

Haskins, Liedtka, and Rosenblum (1998) found that a pervasive ethic of collaboration is the most important factor in the success of a team. The individuals selected for a team are bound to their discipline and the institution where they work. The ethic ties them together through "a system of moral principles and values grounded in a sense of calling and stewardship" (p. 34). This ethic creates an energy that allows for the achievement of "lofty individual and collective ambitions" (p. 34). The study concluded that the ethic of collaboration reflected "an active desire for, a commitment to, and a continual engagement in relationship-centered collaboration" (p. 35). This ethic of collaboration allowed for a capacity to create and sustain "competitive advantage, individual learning, and extraordinary levels of service" (p. 35).

Throughout the literature devoted to the high-performance team, it is easy to note that a common theme runs throughout. The high-performance team is differentiated from a traditional team or work group by the synergy it develops through the commitment of the team members to the organization, the mission of the team, and to the team members themselves. Does this mean that a traditional team cannot be successful? Hardly;

however, as most organizations are striving for both effectiveness and efficiency, taking advantage of the high-performance team, under the appropriate conditions, will lead to a much better use of organizational resources.

### *Team Development*

Assembling a group of workers and calling them a team does not make them a team; assembling a group of highly motivated individual workers and calling them a high-performance team does not necessarily make a high-performance team. Group development has been defined and studied in many different contexts; for the purpose of this study a definition developed by Sam and Galinsky (1974) is appropriate: "changes through time in the internal structures, processes, and culture of the group" (p. 72).

Bales and Strodtbeck (1951) looked at group development as a cyclical process, as did others, where each stage of development would be revisited as needed throughout the life cycle of the group. First, the group would go through a stage of orientation for purposes of defining the type of group they belong to and how the assigned tasks might be completed. In the second stage, called the evaluation stage, research is conducted and analyzed while sharing thoughts and opinions on the information. In the control, or third stage, the group members push for performance and decisions, with the thoughts and ideas of some members accepted while those of others are rejected.

In research conducted by B. W. Tuckman (1965), it was found that whenever a small group of people are put together and assigned tasks to complete as a cohesive unit,

a process of working relations development takes place on both the task and human relations levels. These levels of team development are as follows:

1. Forming—individuals in the newly formed group begin to determine appropriate behavior and key values, while looking to the more senior or knowledgeable individuals in the group for guidance and leadership. On the task level, individuals begin to determine what the task is and how the group can complete the task.
2. Storming—on both the task and human relations levels, this is a time of turbulence and emotion in the newly formed group. The individuals are each attempting to use their own experiences and individuality to complete the assigned tasks with little regard for the others in the group.
3. Norming—the group becomes cohesive while standards, roles, key values, and group spirit surfaces.
4. Performing—Collaboration is apparent, and group members become more flexible and comfortable in their roles. The misdirected emotion from the storming stage is now directed towards the assignment or project at hand.

Poole and Roth (1989) studied group development as a contingency process, offering that both group development and decision making are impacted by the characteristics of the assigned task as well as the properties of group structure. The task characteristics variable consists of issues such as coordination and difficulty, while the group structure variable "determine working relationships such as involvement, leadership and consensual norms" (p. 329).

Katzenbach and Smith (1993) developed a descriptive tool to assess team development. Based on observations, existing research, interviews and experiences, the team performance curve places a team into one of five categories:

1. Working Group—the working group is a group of individuals within an organization that share information and best practices in order to enable the individual to better perform within their own area of responsibility. This group has no need to become a team as there are no performance goals for the group, nor is there a common purpose or are there other team attributes such as synergy; the working group is nothing more than the sum of individual bests (Katzenbach & Smith, 1993). Working groups are described as having a strong leader, individual accountability, individual work-products, methodically run meetings with little group problem solving, and delegation of responsibility to the individuals that make up the group (Katzenbach & Smith, 1993).
2. Pseudo Team—The pseudo team is not focused on collective performance, nor are they attempting to attain collective performance. Although they may call themselves a team, and may believe they are a team, there is no common purpose or goals; in fact, political issues often overwhelm the team and individual performance is often hindered without any benefits that teams strive for (Katzenbach & Smith, 1993). Specifically, the pseudo team does not have specific team objectives or collective work products, the team is confused about their purpose, there is no knowledge within the team of the benefits of teamwork, structure impairs collective work, communication is at a minimum,

there is no mutual accountability, and often shortcomings are blamed on other members of the team or the team leader (Katzenbach & Smith, 2003).

3. Potential Team—The potential team is more interested in improving team performance than the working group or the pseudo team. Potential teams are also more interested and more focused on a team work product, a collective purpose and goals, and a team process or working approach. At this point, however, they are not yet responsible for mutual accountability, nor have they attempted to establish it. More specifically, the potential team emphasizes real work, common purpose and collective goals, they hold themselves individually accountable, there is communication throughout the team towards achieving goals, they understand the importance and value of the team approach to work, and they have specific work products (Katzenbach & Smith, 1993).
4. Real Team—The real team has skills that are complementary, and are committed as a team to a common purpose, goals, and a working approach. In addition, they hold themselves mutually accountable and the team is the organizational focus of performance (Katzenbach & Smith, 1993).  
  
Characteristics of the real team include specific mutually agreed upon purpose, goals, approach and work products, open communication, empowerment, performance measurements, and a shared approach to leadership (Katzenbach & Smith, 1993).
5. High-performance team—The high-performance team displays all of the characteristics of the real team, and in addition are deeply committed to the

personal success and growth of the other team members, with this commitment extending beyond the team initiative. The high-performance team is noted for achieving more in terms of performance than other teams, as are the individual members of the team (Katzenbach & Smith, 1993). Characteristics of the high-performance team include an inordinate dedication to achieving team goals, a strong commitment to each member's individual growth and success, mutual accountability, open communication, specific approaches to problem solving, ambitious goals, synergy, motivation, and the members hold the belief that the team experience is particularly rewarding (Katzenbach & Smith, 1993).

James Peters (1997) expanded on the work of Katzenbach & Smith (1993) in his doctoral dissertation, developing the Team Performance Survey, a quantitative instrument to measure the level of team development as described by the team performance curve. His research demonstrated a strong consistency and correlation between the attributes of teams as described by many researchers, such as Blake and Mouton (1978), Hagen (1985), McGregor (1960), Hughes (1983) Kerzner (1992) and Katzenbach and Smith (1993). Finding consensus among the attributes described by the various researchers, Peters chose the six team attributes of Hagen (1985) as representative of the seminal research and developed the questionnaire based on these attributes and the five stages of team development described by Katzenbach and Smith (1993). The result of the work of Peters, the Team Performance Survey, is shown in Appendix C.

### *Defining Motivation*

Given that motivation is not observable, it is therefore difficult to measure. The focus, then, is to infer from behavioral observations the motivational processes at work. In general, motivational research seeks to answer the question of what arouses and energizes behaviors.

The Greek philosopher Epicurus studied human behavior and offered the proposition that humans are motivated by pleasurable activities and avoid painful activities. This early thought is the basis for a portion of the current work in motivational theory.

Psychologists began studying motivation in earnest in the 1930s with the development of the need based theories of Maslow and then the cognitive formulations of Lewin and others. In the 1960s focus was turned to motivation in the workplace, including job satisfaction and job performance. Adams offered the equity-based theories, Porter, Lawler, and Vroom offered the instrumentality-based theories, and Locke proposed the goal-setting theories (Swezey, Meltzer, & Salas, 1994). Pintrich and Schunk (1996) offered that motivation is measured by direct observation, observer rating, and self-mechanisms.

### *Individual Motivation*

There are two broad categories of motivation that are generally discussed in both historical and current literature. Extrinsic motivation is “the motivation to work primarily in response to something apart from the work itself” (Amabile, Hill, Hennessey,



& Tighe, 1994, p. 950). An example of extrinsic motivation might be “individuals are extrinsically motivated when they engage in the work in order to obtain some goal that is apart from the work itself, or meet a constraint that is imposed by an extrinsic source” (Amabile, 1997, p.21). Intrinsic motivation is “the motivation to engage in work primarily for its own sake” (Amabile, Hill, Hennessey, & Tighe, 1994, p. 950). For example, “individuals are intrinsically motivated when they seek enjoyment, interest, satisfaction of curiosity, self-expression, or personal challenge in the work” (Amabile, 1997, p. 21). In other words, extrinsic motivation in an organization is primarily driven by a tangible reward or compensation, while intrinsic motivation deals with intangible rewards, often a challenge for the leader or manager to discover. Those researching motivation have debated the benefits and drawbacks of both intrinsic and extrinsic motivational methods, and it is commonly accepted that both forms are employed to develop a highly motivated workforce. With this in mind, motivation research has attempted to understand why some individuals are motivated primarily by intrinsic rewards while others are motivated by extrinsic rewards.

Abraham Maslow, a behavioral theorist, is considered the father of the human potential movement based on his seminal work which resulted in the human needs hierarchy. The human needs hierarchy proposes that individuals are motivated to achieve five basic goals ranging from basic needs and satisfactions to more worldly and intellectual needs. These goals are interrelated and arranged in hierarchical order from the lower order physiological and safety needs, acceptance and esteem needs, and finally self-actualization needs. The lower order needs serve as the foundation or platform for

the increasingly difficult to attain higher order needs. The theory of this hierarchy suggests that individuals will strive to meet the lower order needs first before moving on to satisfy the higher order needs, although in reality, a varied combination of all needs acting at the same time will drive motivation (Maslow, 1943).

Kurt Lewin was one of the earliest contributors towards the field of individual motivation. His career was split between research in social psychology and personality theory. Within the field of social psychology, his interests tended towards group dynamics and action research. His primary contribution to the field of organizational behavior is the field theory; before change, the force field is in equilibrium in relation to the forces that suggest change and those that resist change. If change is to take place, forces in favor of change or forces to deter change must impact the equilibrium. From the field theory came Lewin's change theory, the work he is most noted for (Lewin, 1943).

David McClelland developed the achievement motivation theory during the 1950s, a theory in contrast to the prior work on motivation that assumed motives were deficit tensional states in organizations which would energize the organization until the time that the negative state was resolved (McClelland, Atkinson, Clark, & Lowell, 1953). Rather, achievement theory predicted that individuals would be motivated by their strong need for achievement, particularly in cases where they can attain success through their own efforts. Within the research, McClelland touched on expectancy theory, relating the measurement of the effects of small and large deviations from the anticipated outcomes and the resulting impact on motivation. In addition, the components of power and affiliation were subsequently added to the theory and later research found that training

will increase the targeted goals; recent reviews of McClelland's theory strongly suggest that the theory is relevant to individual motivation (Miner, 2005).

One of the better known motivational theories was developed by Frederick Herzberg during the 1950s. The motivation-hygiene theory, often called the two-factor theory, suggests that job satisfaction leads to motivation, while job dissatisfaction inhibits motivation. The theory developed from research around the hypothesis that the factors that cause positive job attitudes are different than the factors that cause negative job attitudes. The resulting theory found that good hygiene factors should be provided in the workplace; however, this is beneficial only up to a certain point. In addition to, and beyond the hygiene factors, intrinsic motivation must be addressed through job restructuring in order for the worker to attain the goals that are meaningful in relation to doing the job (Herzberg, Mausner, & Snyderman, 1959).

The expectancy theory was developed in the 1960s first through the efforts of Victor Vroom and later by Lyman Porter and Edward Lawler. With its basis in learning theory, expectancy theory provides very simply that workers prefer certain outcomes and goals over others. Specifically, Vroom's theory espouses that a certain feeling is associated with outcomes, and a positive valence means that the worker prefers the outcome to not having that outcome, while a negative valence infers that the worker would prefer to not have that outcome at all. This theory suggested that performance was a direct result of ability and motivation (Vroom, 1964). Later in the 1960s, Porter and Lawler expanded on the work of Vroom and offered that many more variables be included in expectancy theory, including the value of the reward, the effort-reward

probability, effort, abilities and traits, role perceptions, performance, rewards, perceived equitable rewards, and satisfaction (Lawler, 1981; Miner, 2005).

Another school of thought developed in the 1960s in relation to motivation theory. Equity theory was introduced to organizational behavior by J. Stacy Adams, suggesting that workers are motivated by a desire for equity with the others in the organization; however, it is certainly important to acknowledge that the worker must first perceive that inequities are present before equity theory can be useful. The theory revolves around the workers' inputs to the work, the outcomes garnered from the job, and the perception of the equitable outcomes for the inputs offered (Adams, 1963). Lawler (1968) found that some components of equity theory were relevant in the broad context of expectancy theory as well.

A third outlook on motivation originated in the 1960s, with goal-setting theory being proposed by Edwin Locke and Gary Latham. The basis for this theory was the question of "how the level of intended achievement is related to actual level of achievement" (Locke, 1966, p. 60). Later iterations of the theory included the components of goals, expectancies, self-efficacy, and performance (Locke & Latham, 1990).

In the 1970s, the job characteristics theory was developed by Richard Hackman, Edward Lawler, and Greg Oldham. Following the work of Herzberg, this theory focused on job satisfaction and the relationship with individual motivation. The original theory was based on Maslow's hierarchy of needs theory combined with expectancy theory, considering that four core characteristics must be present in a job to increase job

performance, satisfaction, and attendance. Later, another component was added to the model to include task significance as a component of the meaningfulness of work (Hackman & Lawler, 1971). In 1978, Hackman used the job characteristics theory to address the performance of work groups as well (Hackman, 1978).

Also in the 1970s, Terence Mitchell and Stephen Green developed the attribution theory of motivation. The basic theory suggests that leaders observe information and make attributions around this information, and these attributions impact the behavior of the subordinates and leaders. These attributions create three possible perceptions regarding the work performance: that the employee is the cause, the task is the cause, or other outside circumstances are the cause. The information is therefore important to the leader if the behavior is distinctive, consistent, and is there a consensus among other employees (Mitchell, Green, & Wood, 1981).

In 1977, Bandura proposed self efficacy theory, suggesting that there are three basic processes that determine behaviors that people initiate and to what degree they attempt to overcome obstacles. The three cognitive components of self efficacy theory are self efficacy expectancies, outcome expectancies, and outcome value. In short, self efficacy is a form of confidence the individual has in their ability in a particular situation. Individuals may believe that if they behave in a particular manner (efficacy expectation) a desired outcome will be produced (outcome expectation) (Bandura, 1986). Self-efficacy is a significant determinant of behavior if the proper skills and initiatives are in place; however, if the skills are not present, the self-efficacy will influence

behavior through an increased interest in developing the needed skills (George & Feltz, 1995).

Champagne and McAfee (1989) conducted research on the subject of employee motivation in order to improve organizational results. Three distinct imperatives were developed that an organization must focus on to improve the motivation of the individual worker, including the differing needs of workers, being sensitive to these needs, and matching individual goals to organizational goals. From these imperatives ten strategies were developed, including the use of behavior modification, rewarding high-performers, setting goals, redesigning jobs, reducing employee stress, encouraging employee participation, using punishment and discipline, treating employees fairly, meeting the individual goals of the employees, and using effective work teams.

In 1990, Philip Grant conducted research similar to that of Champagne and McAfee, finding that management has to be active and aggressive in order to increase the motivation of workers in order to improve organizational results. “Generally, to increase an employee’s motivation, management must get employees to perceive that they will achieve higher satisfaction at higher effort levels” (Grant, 1990, p. 11). The role of management is to make employees aware that greater effort and the cost of these efforts will result in greater rewards that are worth the effort.

While researchers continued their attempt to understand what it takes to motivate individuals, organizations were implementing the use of work groups and teams to increase efficiency and effectiveness in various areas, including decision making and production. Assembling a group of individuals and asking them to work together towards

a common goal opened up another avenue in the study of motivation – the study of team motivation.

Realizing and understanding that motivation had been studied from many varied and valid perspectives, with little if any coordination or integration, Leonard, Beauvais, and Scholl (1999) proposed an integrated model of motivation based on their research efforts in the field. Taking into account the perspectives of several of their peers, five sources of motivation were developed, including intrinsic process, instrumental, external and internal self-concept, and goal internalization. Barbuto, Locke and Henne (1986) stated that although many theories of motivation had been developed, there was no single underlying theme, nor were the various theories supported by substantial research efforts. Landy and Becker (1987) suggested that in order to fully comprehend and synthesize existing research, a metatheory of work motivation could be developed as a general framework linking existing theory. Leonard, Beauvais, and Scholl (1999) found that traditional motivation models were inadequate to explain behaviors that were identified in modern organizations. Their research found that while many insights had been developed into goal setting, reward systems, leadership, and job design, all were based on the presumption that individuals would always act in the best interest of the organization. Consequently, as a result, Leonard, Beauvais, and Scholl proceeded to develop a metatheory of work motivation.

The research on work motivation of deCharms (1968), Deci (1975), Katz and Kahn (1978), and Etzioni (1975) was reviewed, finding three primary sources of motivation: (a) intrinsic process motivation, (b) motivation based on goal internalization,

and (c) extrinsic or instrumental motivation. Leonard, Beauvais and Scholl (1999) found that the prior twenty years of research did a good job of supporting these sources of motivation; they also concluded that the three sources were not inclusive for the full range of motivational behavior. Atkinson and Birch (1970) found that the models did not include situations where valences and expectancies were static; Rynes and Lawler (1983) suggested that individuals could differ in their use of expectancy and instrumentality information.

Personality theory was considered as a method to address the concerns not explained by environmental or situational factors. Extensive research has been conducted linking personality to motivation; more recent research has proposed that there is a clear linkage between the person and the situation (House, Shane, & Herold, 1996). As a result, self-theories were developed to explain “both consistency and variability in individual work behavior across situations” (Leonard, Beauvais, & Scholl, 1999, p.973). Unfortunately, self-theory was never really organized or synthesized, so prior to development of a metatheory of work motivation it was necessary to consider and analyze all strains of self-theory, explaining its influence on behavior in organizations.

Leonard, Beauvais, and Scholl (1999) extensively reviewed the literature and research on self-concept, proposing that three generalized sets of attributes could incorporate all prior research, including perceptions of traits, competencies, and values. In addition, they found that one’s concept of self was made up of three sets of interrelated self-perceptions: the perceived self, the ideal self, and a set of social identities. The conclusion was reached that these three elements were paramount to understanding the



importance of self-concept in “energizing, directing, and sustaining organizational behavior” (Leonard, Beauvais, & Scholl, 1999, p. 975).

The perceived self is made up entirely of perceptions of actual traits, competencies, and values. An individual will define these perceptions through the dimensions of level and strength. Level is the perception of degree to which an individual possesses a particular attribute and is viewed through two evaluative frames: the degree to which they evaluate themselves in relation to others, or to which they evaluate themselves against a fixed standard or goal. Strength of perception of the perceived self is considered the degree to which the individual holds the perception of the attribute level. Individuals with a strong perceived self are firm in their belief of the attribute level, those with a weak perceived self are not firm in their belief of the attribute level (Leonard, Beauvais, & Scholl, 1999).

. The interaction of the perceived self, the ideal self, and social identities leads to the development of self-concept. “The more individuals identify with a social identity, the more these individuals vest their self-concepts in that identity” (Leonard, Beauvais, & Scholl, 1999, p. 980). Based on the idea of self-concept, individuals are motivated to maintain and improve the internalized view of themselves (Korman, 1970).

Prior research identified intrinsic process motivation, extrinsic or instrumental motivation, and goal internalization as valid sources of work motivation (Leonard, Beauvais, & Scholl, 1999). However, it was also found that these three sources did not completely account for the work behavior of all individuals; therefore, the idea of self-

concept was introduced as an additional source of motivation. The resulting five sources of work follow:

1. Intrinsic Process Motivation—the motivation for the worker involves perceiving the work as fun; either the task itself, or the camaraderie of the other workers in the process, create an atmosphere of fun. This worker will often forego tasks that are relevant to task accomplishment in order to pursue tasks that are intrinsically more enjoyable (Leonard, Beauvais, & Scholl, 1999).
2. Extrinsic/Instrumental Motivation—this individual is motivated by achieving higher levels of extrinsic rewards, including all forms of compensation. In a team environment, they will focus on team goals primarily to increase personal shares of gainsharing, bonuses, and similar incentives (Leonard, Beauvais, & Scholl, 1999).
3. External Self-Concept—motivation is high in this situation when perceived success or failure, either individually or as a member of a team, will be attributed to them personally. This worker will have trouble with goal attainment attributed to others, and personal reputation is of primary importance (Barbuto, Trout, & Brown, 2004).
4. Internal Self-Concept—in this case, the individual is again concerned with success based on the perception of their responsibility for goal attainment. However, this worker is concerned that they personally perceive the relationship to success, rather than being concerned that others identify and reinforce the success (Barbuto, Trout, & Brown, 2004).

5. Goal Internalization—this worker is motivated by the goals themselves, and their attainment is of personal importance. In this case, the worker will pursue the goals without regard for extrinsic rewards and benefits and without regards for being able to attribute the attainment of goals to themselves or a team they belong to. Although more difficult to measure, task and social feedback are used to gauge progress towards goal attainment (Leonard, Beauvais, & Scholl, 1999).

Barbuto and Scholl (1998) developed and tested scales based on the integrative taxonomy of motivation sources developed by Leonard, Beauvais, and Scholl. In their research they developed conceptual links to traditional motivation research for the five motivation sources of Leonard, Beauvais, and Scholl (1999).

1. Intrinsic Process Motivation—“a person is motivated to perform certain kinds of work or to engage in certain types of behavior for the sheer fun of it” (Barbuto & Scholl, 1998, p. 1012). This is a similar construct to that deemed intrinsic motivation by Deci (1975).
2. Instrumental Motivation—“motivate individuals when they perceive their behavior will lead to certain extrinsic tangible outcomes such as pay, promotions, etc.” (Barbuto & Scholl, 1998, p. 1012). This is a similar construct to that discussed as extrinsic motivation by others (Bandura, 1986; Deci, 1975).
3. External Self-Concept Based Motivation—“motivation tends to be externally based when the individual is primarily other-directed, seeking affirmation of

traits, competencies, and values” (Barbuto & Scholl, 1998, p. 1012). This individual is seeking acceptance and approval from reference groups to gain acceptance and to gain status. This is a similar construct to that described as needs for affiliation (McClelland, 1961) or relatedness needs (Alderfer, 1969).

4. Internal Self-Concept Based Motivation—This individual is inner-directed, focused on internal standards related to traits, competencies, and values. The motivation of this individual comes from behaviors that reinforce these standards, and further improve these competencies (Barbuto & Scholl, 1998). This is a similar construct to that described as a high need for achievement (McClelland, 1961) and growth needs associated with developing one’s potential (Alderfer, 1969).
5. Goal Internalization Motivation—This worker is motivated when they “adopt attitudes and behaviors because the content is congruent with their personal value systems” (Barbuto & Scholl, 1998, p. 1013). This construct is similar in nature to that of Kelman’s (1958) value system, and Deci’s (1975) internal valence for outcome. The work of Barbuto and Scholl resulted in the development of the Motivation Sources Inventory<sup>®</sup>, as shown in Appendix B.

### *Team Motivation*

From the time of the discovery of America until the dawn of the Industrial Revolution, work primarily revolved around farming and manual labor. From the late nineteenth century until the time of this research the workforce has been in constant flux,

evolving to meet the needs of an industrial and technological society. Wren (1972) addressed this evolving workforce, finding three significant issues, including recruiting, training, and motivating. Recruiting and training are beyond the scope of this research; however, motivation of the employee is directly related to the work here.

The problem, as Wren noted, was that the new workforce had been used to an environment that was autonomous, where workers had independence and were self-sufficient. As the Industrial Revolution took place, supervision and authority figures took the place of the self-sufficiency and autonomy that workers had been comfortable with. Early organizational research focused on the efficient and effective use of the assets of the organization, rather than the motivation of employees to obtain the desired outcomes. Frederick Taylor and others made productivity the ultimate goal of the work that they offered, suggesting that management could motivate workers through promotions, wages, improved conditions, and surroundings (Taylor, 1947).

Early in the Industrial Revolution, worker motivation was focused on rewards and punishments, with worker self-interest being the driver of motivation (Weber, 1947). Organizational theory continued along the lines of incentives as the motivator until the late 1950s, when McGregor challenged the thought that incentives were the only motivational force at work:

The practical logic of incentives is that people want money, and that they will work harder to get more of it. Incentive plans do not, however, take account of several other well-demonstrated characteristics of behavior in the organizational setting: (a) that most people also want the approval of their fellow workers and

that, if necessary, they will forego increased pay to obtain this approval; (b) that no managerial assurance can persuade workers that incentive rates will remain inviolate regardless of how much they produce; that the ingenuity of the average worker is sufficient to outwit any system of controls devised by management (McGregor, 1960, p. 9).

Throughout his work, McGregor expressed concern that leadership created conflict with individual behavior. Chris Argyris proposed that productivity was impacted at both the individual and organizational levels due to a lack of understanding of how and why individuals and groups operated and accomplished the things they did. His research provided that human behavior is caused by the following: (a) individual factors, (b) small informal group factors, and (c) formal organizational factors (Argyris, 1957).

Work in the field of organizational behavior shifted as the workforce became more educated. Likert (1961) noted that as education increased, expectations increased as well. "As people acquire more education, their expectations rise as to the amount of responsibility, authority, and income they receive" (Likert, 1961, p. 2). At the same time supervisors began to find that the workforce had more specialized knowledge, often more knowledge than the supervisors themselves, and a reliance on the employee was needed. Likert noted that "there is a growing body of evidence indicating that significantly better results are obtained when an organization uses its manpower as members of well-knit, effectively functioning work groups with high performance goals than when its members are supervised on an individual basis" (p. 38).

Hersey and Blanchard (1982) took note of the more educated workforce and the manner in which work groups were being utilized in organizations, offering that the lower levels of Maslow's hierarchy were no longer the elements needed to motivate workers. Until that point in time, the less educated workers were motivated by the need for consistent wages to support their families; however, over the years, organizations had evolved to a point that basic and security needs were met. In their research, it was found the upper level needs of affiliation, ego-status, and self-actualization needed to be addressed by leadership in order to motivate the new workforce in the organization.

Bandura (1997) studied group motivation and found that it was a combination of (a) a confidence that the collective skills of the group members is adequate to get the assignment done, and (b) the extent of the group member's expectations that the group will be able to collaborate to perform the job. In a similar study, Nadler and Lawler (1989) found that employee motivation was maximized when (a) the individual believes that a particular behavior will lead to specific outcomes, (b) the outcomes will have a positive value for the individual, and (c) the individual believes they are capable of performing at the desired level. The authors determined that a uniform treatment of individuals in the team setting will not maximize the team motivation or the individual motivation.

Campbell, McCloy, Oppler, and Sager (1993) developed a theory that suggested that there were three direct determinants of performance: declarative knowledge, procedural knowledge, and skills and motivation. A work that supported this theory from 1988 by Hollenbeck, Brief, Whitener, and Pauli proposed that there was a relationship

between personality and motivation, as well as a relationship between motivation and ability, resulting in personality and performance impacting motivation, on the contrary motivation and performance were impacted by ability.

Likert (1959) proposed the model for goal setting based on goals for individual and team behavior. These goals will impact the direction, coordination, and the extent of the overall team effort. In addition, the amount of participation in the goal setting process will impact the degree of commitment to the goals as well as the motivation to achieve the goals. This commitment creates a decision making process that is more explicit, and the individual will be more inclined to pursue goals that are reinforced by group norms (Lewin, 1947).

The managerial grid of Blake and Mouton (1978) can be considered for describing means of team motivation. The grid format is designed to identify the ideal and actual function of the team and its members, utilizing input of the team members prior to the first team meeting on issues such as the quality and nature of teamwork, individual performance, barriers, and team culture. This information is compared and discussed during the first team meeting, concluding with a consensus on the actual and ideal functioning of the team and the team members. Using this process, the team can strive for the "nine, nine" culture which is the highest score on the managerial grid for a team with concern for people and optimum production.

Guzzo and Shea (1992) looked at the idea of task interdependence, defining it as "the extent to which group members must interact and depend on each other in order for the group to accomplish its work" (p. 296). Task interdependence is essential in



teamwork, as the work of each individual impacts the outcomes of other members as well. Task interdependence is important for team performance, as high interdependence leads to collaborative and cooperative behaviors (Fandt, 1991), while low interdependence leads to individual work without cooperation or collaboration. Bandura (1986) spoke of self-efficacy and later collective efficacy, which are individual and collective confidence regarding the task at hand. Locke (1991) found that goals and self-efficacy work together as a strong motivational force in that they most directly impact the work of the team.

One of the defining characteristics of teams is task-based interdependence, and the work of a team requires the sharing of resources, information, and coordination with the other members of the team in order to accomplish the tasks before them (Guzzo, 1995). Many organizations use team incentives, with all members receiving an equal share of the incentive, in order to produce the best results. With the variable incentive of the team being based on team performance, pay interdependence exists between the members of the team. Schuster and Zingheim (1992) found the same, noting that a team based incentive plan would overcome the limitations of individual incentives by encouraging sharing, rather than competition, for resources and information. Unfortunately, there are problems with team incentives, as noted by Gomez-Mejia and Balkin (1992), in terms of social loafing and free riding, whereby some members of the team do not contribute a fair share to the effort yet garner a full share of the incentive earned. Further, it was noted that team incentives may be appropriate only when an

individual contribution cannot be discerned due to the nature of the task or structure and mission of the team.

Lawler (1987) discusses a group incentive plan designed to take a portion of productivity gains and distribute them to the members that assisted in achieving them. Several observations are made with regards to the impact of this plan on the motivation of the group as a whole, including improved teamwork and coordination, improved sharing of knowledge, increased awareness of expenses and savings, increased awareness of planning and innovation, and improved teamwork as well.

Goal setting is considered one of the most effective means of motivating both individuals and teams. Locke and Latham (1990) offer that goal setting will increase efforts, direct attention to tasks, and assist in forming strategies to accomplish tasks. Group goals motivate group effort increasing planning and coordination, directing focus to task related behaviors and away from non-goal activities, and increasing cooperation and communication (Weldon & Weingart, 1993).

Self-efficacy, the self-confidence in one's ability to achieve goals, has been demonstrated to have a substantial impact on individual work related performance (Bandura, 1982). Considering the extensive use of teams in organizations today, researchers have developed theory on a group level, termed collective efficacy. Bandura stated that collective efficacy "will influence what people choose to do as a group, how much effort they put into it, and their staying power when group efforts fail to produce results" (p. 143). Going under the assumption that the performance of the team is under the control of the team, collective efficacy could be the factor determining differences in

performance of groups with apparent equal talent and ability. It could be expected that teams with higher collective efficacy would seek out more difficult challenges, do more to complete challenges, and be more resilient over the long run in completing the challenges. Locke and Latham (1990b) stated that “only if satisfaction leads to commitment to the organization and its goals and only if these goals are challenging and accompanied by a high self-efficacy, will subsequent high performance result” (p. 26).

The success of a team depends not only on the performance of individuals towards the goals and objectives of the team but also the beliefs that the individuals have with regards to the capabilities of the team are similar to the individual’s belief in the collective efficacy of the team (Zaccaro, Blair, Peterson, & Zazanis, 1995). In other words, there is a strong relationship between team performance and the collective efficacy of the team. Hodges and Carron (1992) found that collective efficacy had a distinct impact on the performance of the group, while the work of George and Feltz (1995) found that collective efficacy was a valuable tool in understanding motivation.

Matsui, Kakuyama, & Onglatco (1987) determined through their research that team members working as a team with specific group goals rather than working individually with individual goals substantially improved performance. In the same research they observed that feedback on the goals set would improve future performance as well.

Group cohesion has been linked to collective efficacy in terms of interpersonal liking, liking of the group task, and group prestige (Festinger, 1950). Belonging to a team that is believed to be effective will increase the attractiveness of belonging to the group,

and receiving positive feedback on group performance will increase attractiveness as well (Berkowitz & Levy, 1956). The work of Spink (1990) offered that a strong attraction to the task of a group, along with raised levels of social cohesion, would result in increased perceptions of group or team efficacy. Campbell (1991) found that groups with high collective efficacy would thrive on challenging goals set by the group, and these goals would impact the effort used to seek out strategies to attain those goals. The goal setting process in itself will therefore become a motivating force for the team.

Social loafing cannot be overlooked in this discussion given its negative motivational impact on the team performance. Many have studied this phenomenon, including Harcum and Badura (1990), Shepperd and Taylor (1999), Waller (1996), Williams and Sommer (1997) and Karu and Williams (1993). Although the researchers have proposed a variety of reasons for social loafing, they all agree that it occurs due to an individual's perception that their efforts cannot be evaluated, or because they feel their contributions do not aid the overall group.

### Conclusions

This review of the literature has explored the research in the areas of teamwork, individual motivation, and group or team motivation. The extensive discussion of teamwork was presented to demonstrate the consistency in defining the characteristics and attributes of a successful team and to establish a basis for the seminal work of Vaill leading to the definition of a high-performance team by Katzenbach and Smith.

Individual and team motivation were presented as both are significant to the performance and success of a team in the organizational setting.

This review serves as the basis for development and support of the primary research instruments used in this project. The remainder of this study focuses on the research method, application of the questionnaires, and a discussion of the findings.

## CHAPTER 3. METHODOLOGY

### Introduction

This chapter will explore the methodological approaches used throughout the design of this study. The procedures and methods will be discussed, along with the literature relevant to the development of these procedures and methods. The organization chosen for this study will be described, as will be the process of obtaining data from these organizations. The tools used for obtaining data will be included, along with the preparation and procedures of the researcher for conducting the study.

A cross-sectional survey design will be used in this study, collecting data on all variables that are relevant at one time, including the level of team development and the individual motivation factors. The cross-sectional design is appealing as the data represent a set of people or cases at a single point in time. In addition, the cross-sectional design is well-suited for collecting data on many variables or from large groups of subjects that are not in the same geographical region (Rassel & O'Sullivan, 1989).

### Overview of Methodology for this Study

This research focuses on the two macro topics of teams and motivation. The primary hypothesis proposes that there is a relationship between the level of team development (on the continuum from a working group to a high-performance team) and the motivation of the individual worker towards their individual organizational assignments that are not related to the team to which they belong. Two questionnaires will be utilized in this study, the first to determine where the team lies on the continuum

towards high-performance and the second to determine the motivational sources applicable to team members towards their individual non-team assignments.

Determining the appropriate research methodology for this study was an important and difficult decision. Historically, the majority of academic research has been conducted using a quantitative method, while more recently qualitative studies have gained acceptance.

Qualitative studies allow the researcher to uncover meanings that people confer on their experiences (Creswell, 2003), and are often used when quantitative methods will not allow for the desired type of results (Strauss & Corbin, 1998). Rather than being driven by numbers, as quantitative research is, qualitative techniques provide verbal descriptions to portray the richness and complexity of events that occur in natural settings from the participants' perspectives" (McMillan & Schumacher, 2001, p. 41). Qualitative inquiries employ different strategies, methods of data collection, and analysis than quantitative studies. The traditional methods of collecting data in a qualitative design include open-ended observations, interviews, and document review, but are rapidly expanding to include sources such as sounds, e-mails, scrapbooks. Regardless of the data collection method, the qualitative researcher looks to "involve active participation by participants in data collection and seek to build rapport and credibility with the individuals in the study" (Creswell, 2003, p. 181). By nature, qualitative research is interpretive, with the data being filtered through the personal lens of the researcher prior to analyzing for themes and categories, and finally drawing conclusions about the meaning and value of the data. In addition, due to the open-ended nature of qualitative

research, the method can be time consuming for both the participants and the researcher.

Qualitative research is generally focused on a smaller sample, but with more in-depth and rich information generated for analysis. Due to smaller sample sizes, researchers often find that generalizing findings may not be appropriate or applicable for broader populations (Creswell, 2003).

A human behavioral problem can be studied using quantitative methods, testing the validity of a hypothesis using variables (measured with numbers) and statistical procedures. Quantitative research is deductive logic, seeking to test theories and hypotheses in a cause and effect manner, with the variables and hypotheses chosen prior to the beginning of the study and held constant throughout. The goal of quantitative study is to develop generalizations, with specific qualities among phenomena being a key to relations, which contribute to the overall theory or discipline. The most frequently used methods of quantitative research include surveys and experiments, which allow for an examination of relationships between variables to ultimately answer questions and hypotheses. The quantitative study lends itself nicely to larger samples, and provides results that can be used to generalize across broader populations (Creswell, 2003).

The mixed-methods study, a third general method of research, uses the data gathering techniques of both the qualitative and quantitative methods and is gaining acceptance (Creswell, 2003). Researchers Campbell and Fiske (1959) collected several sets of quantitative data during their 1959 study, and found that the correlation between the data provided more overall validity (Creswell, 2003). Jick (1979) combined qualitative and quantitative data for the first time within one study, using interviews,



surveys, and observations. Jick found that there was more confidence in the findings and results, including the ability to generalize them, due to the different data collection methods complementing and compensating for each other. Creswell (2003) notes that there are drawbacks to the mixed methods approach, including more time and expense in data collection than other designs. In addition, the time and expense need is compounded by the additional time and skill necessary to analyze the data, making this form of study more realistic in the realm of professional research teams with external funding and broad research backgrounds.

For this project a quantitative methodology was deemed appropriate. With a basic understanding of teams and motivation, as well as qualitative, quantitative, and mixed methods research, it is apparent that all three methods are viable alternatives for a study within this discipline. Several considerations were taken into account in order to determine the most appropriate methodology for this particular study.

To begin with, there is little if any prior research that combines team development with individual motivation; therefore, this study in part will establish that a relationship does or does not exist. As noted earlier, a qualitative design, by nature, is based on interpretation through the lens of the researcher, while a quantitative study offers the view of reality independent of the researcher. Surveys will often be used with quantitative and behavioral inquiry in order to remain distant and independent of the researcher. In simply establishing a relationship, the interpretive element of a qualitative or mixed-methods study could skew the findings, and the quantitative study is often used to determine if relationships do exist (Creswell, 2003). At a later point it may be advisable

to conduct further studies using qualitative methods, in particular interviews, to generate richer data to be interpreted by the researcher. The richer research data would lend insight to the relationships beyond the scope of establishing that the relationship does indeed exist.

Motivation is an individual topic in this study, and many participants would have to be interviewed in order to attain results that could be generalized across a broader population. Organizations may not care to commit the time and resources necessary to carryout an extended interview process with a large sample population, particularly when the qualitative researcher cannot offer assurances of concrete results. In addition, in order to establish the existence of a basic relationship between the level of team development and individual motivation, the data attained by interviewing large numbers of participants would most likely become unmanageable. A quantitative study using a survey instrument will minimize time commitment and cost for the organization, although concrete results cannot be assured, and the survey data generated will be more manageable to establish the basic relationship.

Finally, it is often said that quantitative studies are more scientific than qualitative methods, with many scientists discounting the findings of qualitative studies due to their lack of rigor (Hinds, Scandrett-Hibden, & McAulay, 1990).

## Process and Procedures

Cooper and Schindler (2003) state that with an explanatory (causal) hypothesis “there is an implication that the existence of, or change in, one variable causes or leads to a change in the other variable” (p. 51). Typically, the causal variable is the independent variable, while the other is the dependent variable. Cause is defined as to help make happen; therefore, the independent variable does not have to be the “sole reason for the existence of, or change in, the dependent variable” (p. 51).

A correlational hypothesis merely states “that the variables occur together in some specified manner without implying that one causes the other” (Cooper & Schindler, 2003, p.51). With this type of hypothesis, it is believed that there are basic causal forces affecting both variables, but not enough evidence currently to claim that one variable is causing a change in the other.

## Hypotheses

The hypotheses for this study follow:

H1: Individuals belonging to working groups and pseudo teams will be more individually motivated by extrinsic motivational sources than by intrinsic motivational sources or goal internalization.

The first hypothesis is aligned with research question one: What is the relationship between lower levels of team development and the motivation of the individual team member towards their individual work assignments?

H2: Individuals belonging to high-performing teams will be more individually motivated by goal internalization than by extrinsic motivational sources.

The second hypothesis is aligned with research question two: Is there a correlation between being a highly motivated high-performance team member and being a highly motivated individual worker?

H3: As a working group moves along the continuum to high-performance, the source of individual motivation will move in the direction of goal internalization.

The third hypothesis is aligned with research question three: As a team progresses through the various stages of team development is there a relationship between the stage of development and the significant motivational factors of the team member towards their individual work assignments?

As this study is intended to determine if a relationship exists between the level of team development and individual motivation, correlational hypotheses have been chosen. The two variables, level of team development and individual motivation, are impacted individually by many causal factors as noted earlier. Prior to this research there is not enough evidence to suggest that one variable is indeed causing changes to the other.

#### Instrumentation

Two instruments will be used in this study. The first instrument, the Motivation Sources Inventory (MSI), developed by Barbuto and Scholl (1998), was used to identify sources of motivation.

Barbuto and Scholl (1998), based on the work of Leonard, Beauvais, and Scholl (1999), developed and validated the Motivation Sources Inventory (MSI) to measure the five sources of work motivation. The authors defined each of the five sources in terms of content, before generating and testing a list of 78 potential scale items. Based on field testing of these potential scale items, 60 were chosen for further testing, resulting in the final Motivation Sources Inventory of 30 scale items (six for each of the five motivation sources). This instrument has successfully demonstrated relationships with influence tactics (Barbuto & Scholl, 1999) and transformational behaviors (Barbuto, Fritz, & Marx, 2000). In addition, this instrument has been used in applied research with immigrant students' adjustment to a new learning environment (Tsytarev & Lantsman, 1999) as well as organizational citizenship and altruistic behaviors (Barbuto, Brown, Wheeler, & Wilhite, 2003). In 2004 it also was used to demonstrate sources of motivation of adult rural workers (Barbuto, Trout, & Brown, 2004). The Motivation Sources Inventory is presented in Appendix B.

The second instrument used in this survey, the Team Performance Survey, developed by Peters (1997), is a questionnaire designed to assess the level of team development. In his doctoral dissertation, Peters developed and validated the questionnaire, and successfully demonstrated its reliability while studying the correlation of the hierarchy of human needs levels and team performance. The instrument was subsequently used by Elrod (1999) in his doctoral research studying the relationship between team performance and team maturity, and by Robertson (2004) in his doctoral

research on the relationship between the health of project teams and their overall performance. The Team Performance Survey is presented in Appendix C.

### Reliability and Validity of the Instruments

Barbuto and Scholl (1998) developed and tested the Motivation Sources Inventory for both reliability and validity. As an outcome of reviewing the work of prior researchers, as described earlier, Barbuto and Scholl developed the definitions of the five motivational sources. Subsequently, a list of 78 potential scale items was generated, and after a basic analysis for conformity to definitions and redundancy 74 items were chosen for further consideration. Formal examination was conducted on the 74 items retained, for content validity, using students in an Organizational Behavior class as judges. The definitions were presented to the judges, and the 74 items were classified within the five definitions independently. Sixty of the 74 items were assigned to the appropriate categories, more than 60% of the time, and were retained for further study; the other 14 items were discarded. Then, the 60 items were administered to 156 undergraduate college students. The authors selected the sample to meet with the specifics of Spector (1992), and the resultant final set of scales were developed with high unique item loading (Barbuto & Scholl, 1998).

The sample was attained from 156 undergraduate students at a small northeastern university. The average age was 27 years, 56% men, with the respondents working an average of 31 hours each week in a variety of organizations. All were high school graduates, and 20% had some post high school education. Participation was both

voluntary and anonymous, and those that did not care to participate were allowed to withdraw. The researchers explained the basic idea of the research through an oral presentation and the participants were allowed to ask questions for clarification. All were encouraged to answer all questions, honestly, and with the assurance of complete anonymity. Sixty items, as mentioned earlier were used in the measurement, with 12 items each addressing the factors of intrinsic processes, instrumental, external self-concept, internal self-concept, and goal internalization. A seven point scale, anchored with “strongly agree” and “strongly disagree” was used with the randomly ordered items (Barbuto & Scholl, 1998).

Based on the work of Lautenschlager (1989) it was determined that the appropriate number of factors to retain would be five, and a varimax rotation was used to identify the items with the strong and unique item loadings. The average factor loading for the items retained was .58. Goodness of fit was then analyzed using a LISREL maximum likelihood confirmatory factor analysis using the 30 items in the revised scale with a resultant goodness of fit of .92 (Barbuto & Scholl, 1998).

The authors determined from these analyses that the subscales were both reliable and valid in terms of assessing the five sources of motivation. In addition, the authors suggested that the Motivation Sources Inventory could be used to determine the extent to which external variables influence an individual’s motivation (Barbuto & Scholl, 1998).

In his doctoral dissertation, James Peters proposed that there was a relationship between the level of team development, as defined by Katzenbach and Smith (1993), and the level at which team members needs were met, as defined by Maslow’s hierarchy of

needs (Peters, 1997). By evaluating the research on team building and team characteristics (Donnelly & Kezbom, 1994; Blake & Mouton, 1978; McGregor, 1967; Kerzner, 1992; Hughes, Rosenbach, & Clover, 1983), Peters developed a survey instrument that incorporated Katzenbach and Smith's five phases of team development (working group, pseudo team, potential team, real team, and high performance team).

The team performance survey was tested by Peters (1997) for criterion and content validity. Criterion validity, also referred to as concurrent validity, is evident when responses to a survey are related to additional criterion at the same time (or within a short period of time). The measure of criterion validity is demonstrated by the relationship or correlation to another known measure or criterion (Dick & Hagerty, 1971). Peters administered the team performance survey to five teams of students (chosen from 88 total teams), and provided the students with pertinent information regarding the team performance curve of Katzenbach and Smith. With a sample size of 64, the correlation coefficient between the self assessment scores and the team performance survey scores was 0.94. Later work by Elrod (1999) using the instrument developed by Peters reinforced the criterion validity, demonstrating a 0.92 correlation coefficient.

Content validity was defined by Litwin (1995) as being a subjective measure to determine how appropriate reviewers with knowledge of the subject matter believe items are in a survey. In validating the team performance survey, Peters demonstrated a linkage between the questions in the survey and the team building elements described in his research, systematically creating a matrix. Questions were developed in such a way that there was a distinction between each of the team building categories and were directly



related to the team performance curve. By establishing this differentiation, along with an appropriate scoring design, team development can be measured along the team performance curve of Katzenbach and Smith.

Reliability can be tested using a test-retest format, administering the survey to the same teams on different occasions and measuring the correlation between the two. Peters used 25 team members in his evaluation, administering the survey one month later, and found the correlation coefficient of 0.91, which is considered to be a reliable instrument. Reliability can also be tested for internal consistency, using the Spearman-Brown split half coefficient. Peters divided the questions into two groups and found the split-half reliability to be 0.94, demonstrating good reliability (Peters, 1997). This validated instrument of thirty questions will be used in this current research project.

#### Data Collection Procedures

The organizations that will be participating in this research will initially be contacted through e-mail and telephone contact to determine the interest and willingness to participate. Following the telephone and e-mail contacts, the organization will be sent a packet including a cover letter from the researcher outlining the intent and purpose of the study, including a copy of the research proposal. Provided that the organizations agree to participate in the study, they will send a letter on corporate letterhead agreeing to participation. The survey will be completed by the participants via a web survey instrument, with the results being coded to secure individual data while maintaining complete confidentiality for both the individual and the organization.

Data will be analyzed to determine the findings. Following the completion of the study, all participants will be notified that a summary of the study and its conclusions will be made available on the researcher's personal, public website.

### Data Analysis

H1: Individuals belonging to working groups and pseudo teams will be more individually motivated by extrinsic motivational sources than by intrinsic motivational sources or goal internalization.

H2: Individuals belonging to high-performing teams will be more individually motivated by goal internalization than by extrinsic motivational sources.

H3: As a working group moves along the continuum to high-performance, the source of individual motivation will move in the direction of goal internalization.

This study will use a non-random sampling methodology to obtain participants and descriptive statistics will be used to verify that participants meet the criteria for inclusion in the study. Non-random sampling is often considered to be less precise than random sampling; however, there are situations where appropriate. Judgment sampling, a form of non-random sampling is used when participants are chosen based on conformance to specific criterion (Cooper & Schindler, 2003). All participants will be employed by the participating organizations, and will be invited to participate if they meet the following requirements: (a) they belong to a work team in the organization with team responsibilities, and (b) they have additional organizational responsibilities of an

individual nature, beyond those of the team, with individual accountability. Participation will be encouraged, but not required, at all levels of the organization.

Each participant in the study will complete the MSI and the Team Performance Survey, resulting in a score for source of motivation and a score for level of team development. These results will be used to create a scatter plot which will then be used to look for trends and visual relationships between the data. Generally when data is plotted there can be a positive linear relationship, a negative linear relationship, or no linear relationship.

Once the data is organized, statistics will be used to quantify or measure the extent and nature of any relationship observed. As both variables in this research are numerical and quantitative, the direction and strength of the linear relationship can be determined by calculating the correlation coefficient. The strength of the relationship can be visualized as how closely the data resemble a straight line, while the direction can be visualized as an uphill (positive relationship) line or downhill (negative relationship) line.

Finally, having established that a relationship exists between the level of team development and the sources of individual motivation, a model will be developed that allows the level of team development variable to be used as a predictor for the source of individual motivation in a worker. A simple regression analysis will be performed as there is only one independent variable in this study. In addition, the coefficient of determination will be calculated as this statistic measures the proportion of the variability in the dependent variable that is explained by the regression model through the independent variable (Rumsey, 2003).

## Limitations

Generally, the use of questionnaires is a limitation to a study. Isaac and Michael (1990) found that surveys are reactive in nature, being susceptible to generating misleading results, including:

1. Surveys only tap respondents who are acceptable and cooperative.
2. Surveys often make the respondent feel special or unnatural and thus produce responses that are artificial or slanted.
3. Surveys arouse “response sets” such as acquiescence or a proneness to agree with positive statements or questions.
4. Surveys are vulnerable to over-rater or under-rater bias—the tendency for some respondents to give consistently high or low ratings (p. 128).

As participating in the study is voluntary on the part of the organization and the individuals within the organization, the rate of participation is also a limitation of this study. Those that do not participate in the study could conceivably have different perceptions of the level of team development as well as different assessments of individual motivation sources.

A third limitation of this study will be the validity of the instruments utilized. The conclusions drawn from this study are directly dependent on the degree to which they accurately measure the level of team development as well as the sources of individual motivation.

An additional limitation of this study will be the non-random sampling method employed. By using a non-random sampling method the generalizability of the findings may be compromised.

### Ethical Considerations

The primary ethical consideration in survey research is any relationship that the researcher has, or has had, with the participating organizations. The researcher has admired the proposed participating organizations from afar for many years, having been employed in various capacities within the industry for more than 25 years. At no time, however, has the researcher had any relationship with these organizations, either formally or informally, in any capacity. Specifically, the researcher has never been an employee, a consultant, or acted in any supervisory role with authority over those that may participate in this study.

## CHAPTER 4. RESULTS

### Introduction

Little if any prior research has attempted to establish a relationship between the sources of individual motivation and level of team development. This research began with the basis that individuals are motivated by different factors in their individual work assignments as established by past scholars, including Maslow (1943), Lewin (1943), McClelland, Atkinson, Clark, and Lowell, (1953), Herzberg, Mausner, and Snyderman (1959), Adams (1963), Vroom (1964), Hackman and Lawler (1971) and many others. Additionally, this research considers that teams develop along a continuum based on internal structure, processes and group culture, as noted by Bales and Strodtbeck (1951), Tuckman (1965), Sam and Galinski (1974), Poole and Roth (1989), Katzenbach and Smith (1993), and others. Additional consideration was given to the various labels and titles that organizations place on groups of workers in determining the appropriate sample population for this research. Assembling a group of workers and calling them a team does not make them a team; assembling a group of highly motivated individual workers and calling them high-performance does not necessarily make them a high-performance team (Sam and Galinski, 1974).

As teamwork has become the mantra of many organizations today and motivating workers has been a focal point for many years, investigating the relationship between individual motivation and level of team development was chosen as the topic for this research. Since little if any prior research had considered this linkage, a quantitative study was chosen using two questionnaires; the Motivation Sources Inventory to measure the

individual motivational factors, and the Team Performance Survey to measure the level of team development.

The sample population was chosen from several organizations, including a major national retail chain, a regional financial services firm, and a local not for profit agency. Although the organizations deemed that the participants belonged to various types of work teams, the only consideration for purposes of this study was that each individual did, in fact, belong to a team in the workplace regardless of the title given to that team. Descriptive statistics were used in the first two questions of the survey to determine that each participant had individual work assignments outside of the team responsibilities, and that they also had team responsibilities.

Three hypotheses were developed for this research and the associated survey, as follows:

H1: Individuals belonging to working groups and pseudo teams will be more individually motivated by extrinsic motivational sources than by intrinsic motivational sources or goal internalization.

H2: Individuals belonging to high-performing teams will be more individually motivated by goal internalization than by extrinsic sources.

H3: As a working group moves along the continuum to high-performance, the source of individual motivation will move in the direction of goal internalization.

### Sample Population

A non-random sampling methodology was used to obtain the participants in this study. The sample population was chosen from several organizations, including a major national retail chain, a regional financial services firm, and a local not for profit agency. Within each of these three organizations, one or more departments were chosen by that organization for this study based on the criteria of the individual belonging to some form of team in the workplace and also having individual work responsibilities beyond the team assignments. A contact person within each organization distributed the link to the web-based survey by e-mail to those in the sample population, noting that participation was completely voluntary and anonymous. There were 845 total possible participants from the three organizations, with 186 completing the survey for a completion rate of 22.01%.

### Data Analysis Tools

The analysis of the data generated from the survey was accomplished through the use of SPSS 11.0 Student Version and Microsoft Excel 2007. A review of statistical techniques was conducted, specifically including *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 2<sup>nd</sup> edition, by Creswell (2003), to determine the possible techniques that would be applicable to this study. Based on this review, the possible statistical techniques for application were the arithmetic mean, standard deviation, a scatter plot, the Pearson's Product Moment Correlation Coefficient, a simple regression analysis, and the coefficient of determination.



Each questionnaire was made up of thirty questions, and used a five point Likert scale with responses identified as strongly agree, agree, neutral, disagree or strongly disagree. “The Likert scale is the most frequently used variation of the summated rating scale” (Cooper & Schindler, 2003, p.253). A summated scale is made up of favorable and unfavorable statements to which the participant either agrees or disagrees. Each response can then be assigned a numerical value, and the scores can be totaled to measure the participant’s overall attitude. These scales allow a researcher to compare one respondent’s scores to those of a selected sample population (Cooper & Schindler, 2003).

The arithmetic mean ( $\bar{a}$ ), a measure of central tendency, is used to determine how the data are grouped around the middle point of a distribution. It is considered a useful measure, as most individuals are familiar with the concept and it is intuitively clear. It is a measure that can be easily calculated with any data set, and each mean is unique to that particular data set. In addition, the arithmetic mean can be used as a statistical tool to compare the means from several data sets. It does, however, have drawbacks. If there are extremes in the data set that don’t look like the majority of the data, the mean is not representative (Cooper & Schindler, 2003).

The standard deviation ( $\sigma$ ) is a measure of dispersion, or the average deviation from a measure of central tendency. The standard deviation is the square root of the average of the squared distances of the observations from the mean. In other words, the standard deviation determines, with accuracy, where the values of a frequency distribution are located in relation to the mean (Cooper & Schindler, 2003). This metric is

important in descriptive statistics as it reveals the amount of variability of individual scores within a data set (Levin & Rubin, 1998).

A scatter plot of the observed data is used to provide the researcher with two types of information. Visually, patterns can be observed that indicate a relationship between the variables, and if this appears to exist the scatter plot assists in determining what type of line or estimating equation describes the relationship (Levin & Rubin, 1998).

The correlation coefficient ( $r$ ) is used to determine the magnitude and direction of relationships; magnitude is the degree to which variables move in unison or opposition (relationship between level of team development and motivation factors), while the sign of the coefficient describes the direction of the relationship. The symbol  $r$  is used to represent the coefficient's estimate of linear association based on the observed data (Cooper & Schindler, 2003).

Regression analysis is used to make predictions when there is a correlation between two numerical variables. If variable  $x$  (level of team development) is correlated with variable  $y$  (motivation factors), a linear relationship exists and the relationship can be described by a straight line. By determining the slope of that line and the  $y$ -intercept, a value for  $x$  can be used to predict the value of  $y$  (Rumsey, 2003).

The coefficient of determination ( $r^2$ ) is the primary means of determining the strength or extent of the relationship between two variables. This measure is developed from the variation of the  $y$  values in the data set around the fitted regression line and their

own mean. The coefficient of determination is interpreted as the amount of variation in the y variable that is explained by the regression line (Levin & Rubin, 1998).

### Hypothesis Testing

H1 predicted that individuals belonging to working groups and pseudo teams would be more individually motivated by extrinsic motivational sources than by intrinsic motivational sources or goal internalization. Eleven of the participants in the study belonged to working groups or pseudo teams, and the mean score for each of the three motivational factors was calculated (Table 1). The mean for instrumental motivation (extrinsic) was 17.73, the mean score for intrinsic process motivation (intrinsic) was 14.73, and the mean score for goal internalization was 16.73. Based on the means alone, the hypothesis is supported; as teams develop, the source of motivation shifts to goal internalization and away from extrinsic factors. The standard deviation for intrinsic process was 5.29, for intrinsic process 5.02 and for goal internalization 2.53. The standard deviation explains the variation or spread of the actual values around the mean calculated value (Levin & Rubin, 1998); the variations in this case would suggest that the means are not a decisive metric nor can they be used to support the hypothesis.

Table 1. Summation of Means from Motivation Sources Inventory

Motivational Factor	Mean ( $\bar{a}$ )	Standard Deviation ( $\sigma$ )	Sample Size ( $n$ )
Intrinsic Process	14.73	5.29	11
Instrumental	17.73	5.02	11
Goal Internalization	16.73	2.53	11

Further analysis was conducted and scatter plots were created for those respondents belonging to a working group or pseudo team. A visual inspection of Figure 1 (intrinsic process), Figure 2 (instrumental) and Figure 3 (goal internalization) shows that at the lower levels of team development the instrumental motivating factor scored higher than intrinsic process or goal internalization, as the hypothesis suggested.

A simple regression analysis was conducted for each motivational factor and level of team development. Figure 1 shows the results of the regression analysis for the motivational factor intrinsic process and level of team development, considering only the cases in the sample population where the team score reflected a working group or pseudo team. Figure 2 shows the results of the regression analysis for the motivational factor instrumental against level of team development, considering only the cases in the sample population where the team score reflected a working group or pseudo team. Figure 3 shows the results of the regression analysis for the motivational factor goal internalization against level of team development, considering only the cases in the sample population where the team score reflected a working group or pseudo team.

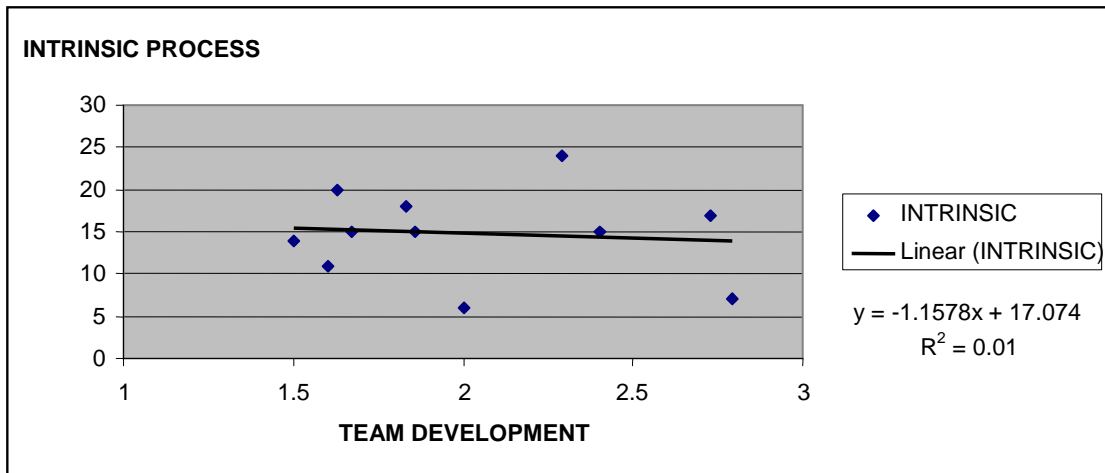


Figure 1. Scatter plot and regression analysis for intrinsic process and level of team development

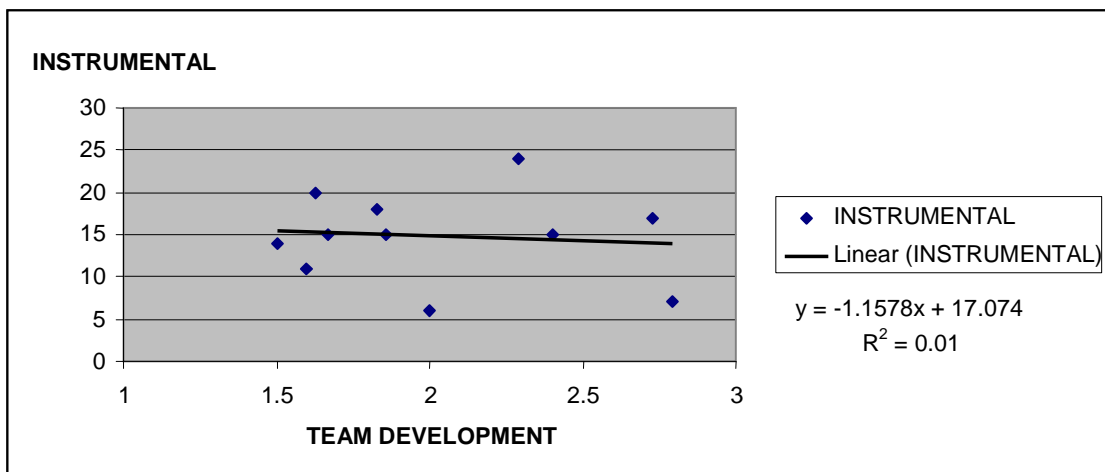


Figure 2. Scatter plot and regression analysis for instrumental and level of team development

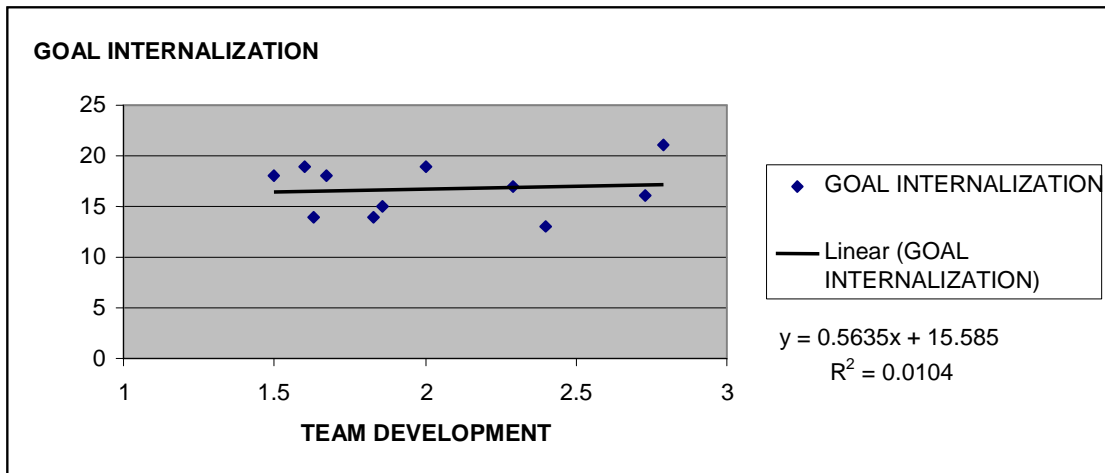


Figure 3. Scatter plot and regression analysis for goal internalization and level of team development

The results of the regression and the best fit line were used to calculate the coefficient of determination ( $r^2$ ). In addition, SPSS was used to calculate the Pearson Correlation Coefficient ( $r$ ) as well as the significance level for intrinsic process, instrumental and goal internalization considering only the cases in the sample population where the team score reflected a working group or pseudo team. The Pearson Correlation Coefficient was based on a significance level of 0.01. The results appear in Table 2.

Table 2. Summary of Regression Analysis

Motivational Factor	Pearson Correlation Coefficient ( $r$ )	Coefficient of Determination ( $r^2$ )	Significance ( $p$ )	Sample Size ( $n$ )
Intrinsic	(0.102)	0.01	0.766	11
Instrumental	0.023	0.01	0.946	11
Goal Internalization	0.101	0.0104	0.768	11

The Pearson Correlation Coefficient is used to determine the type of relationship that exists between the dependent variable (motivation) and the independent variable (level of team development). For the intrinsic process variable, the Pearson coefficient is negative, demonstrating an indirect relationship. For the instrumental factor, a Pearson coefficient of 0.023 demonstrates that a direct relationship does exist, although a weak correlation as any correlation factor less than 0.5 is considered a weak correlation (Cooper & Schindler, 2003). For the goal internalization factor, a Pearson correlation of 0.101 demonstrates that a direct relationship does exist, although a weak correlation.

Published research often tests hypotheses at the 0.01 significance level; that is, the sample statistic will vary from the hypothesized population parameter one or fewer times in every 100 when the hypothesized population parameter is supported (Levin & Rubin, 1998). If a tested level of significance is greater than this level, the researcher must consider the validity or significance of the results, as there are many unknown factors impacting the results. For the motivational factor of intrinsic process, the measured significance level is 0.766; for the motivational factor of instrumental, the measured significance level is 0.946; for the motivational factor of goal internalization, the measured significance level is 0.768, meaning in all cases that the data is not significant at the 0.01 level and could therefore be caused by chance or coincidence.

The coefficient of determination ( $r^2$ ) is used to describe the percentage of the data that is represented by the line of best fit. For the motivational factor of intrinsic process, the coefficient of determination is 0.01; for the motivational factor of instrumental, the coefficient of determination is 0.01; for the motivational factor of goal internalization, the

coefficient of determination is 0.0104, meaning in all cases approximately 1% of the data is explained by the linear equation representing the line of best fit. In other words, the remaining 99% of the data is unable to be explained by the linear regression model.

Based on the analysis conducted, H1 is supported by the visual inspection of the means; however, the standard deviation of the means demonstrates significant variance. In addition, the hypothesis is not supported by the correlation coefficient or the coefficient of determination.

H2 predicted that individuals belonging to high-performing teams will be more motivated by goal internalization than by extrinsic motivation sources. 118 of the participants in the study belonged to high-performing teams, and the mean score for each of the two motivational factors was calculated (Table 3). The mean for instrumental (extrinsic motivation) was 16.18 and the mean score for goal internalization was higher at 20.92, as suggested by the hypothesis. The standard deviation for the mean of the instrumental factor was calculated as 3.18 and for goal internalization 3.07.

Table 3. Summation of Means from Motivation Sources Inventory

Motivational Factor	Mean ( $\bar{a}$ )	Standard Deviation ( $\sigma$ )	Sample Size (n)
Instrumental	16.18	3.18	118
Goal Internalization	20.92	3.07	118

Further analysis was conducted and scatter plots were created for the respondents that belonged to high-performing teams. A visual inspection of Figure 4 (instrumental) and Figure 5 (goal internalization) shows that at the highest levels of team development



the goal internalization motivating factor scored significantly higher than instrumental motivation, as suggested by the hypothesis.

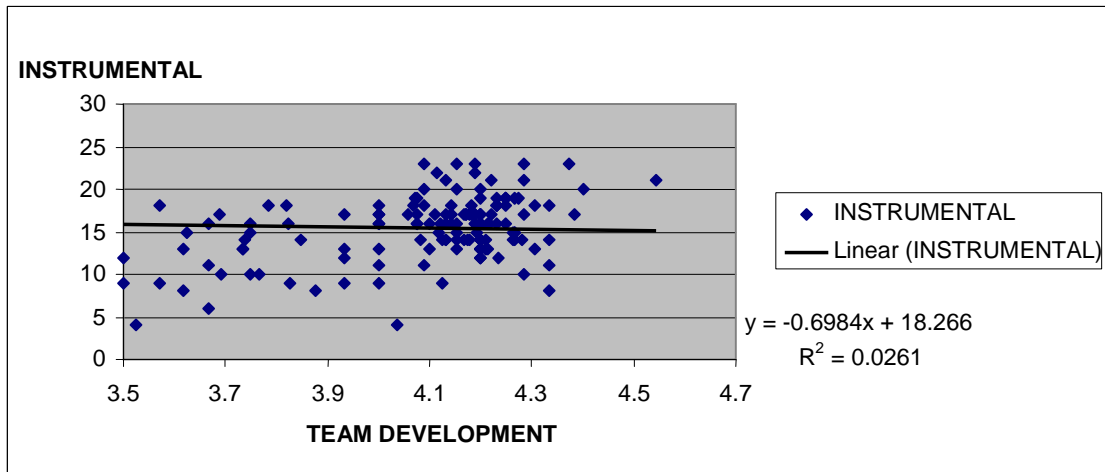


Figure 4. Scatter plot and regression analysis for instrumental and level of team development

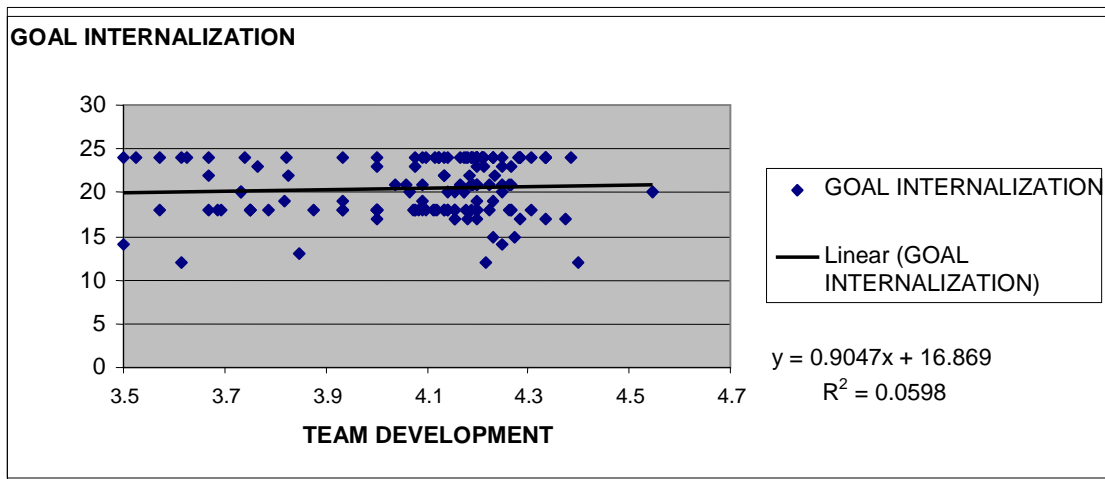


Figure 5. Scatter plot and regression analysis for goal internalization and level of team development

The results of the regression and the best fit line were used to calculate the coefficient of determination ( $r^2$ ), and SPSS was used to calculate the Pearson Correlation Coefficient ( $r$ ) as well as the significance level for each of the motivational factors. The Pearson Correlation Coefficient was based on a significance level of 0.01. The results appear in Table 4.

Table 4. Summary of Regression Analysis

Motivational Factor	Pearson Correlation Coefficient ( $r$ )	Coefficient of Determination ( $r^2$ )	Significance ( $p$ )	Sample Size ( $n$ )
Instrumental	0.161	0.0261	0.269	118
Goal Internalization	0.244	0.0598	0.953	118

The Pearson Correlation Coefficient is used to determine the type of relationship that exists between the dependent variable and the independent variable. For the instrumental factor the Pearson coefficient is 0.161, demonstrating a direct relationship, although a weak correlation as any correlation factor less than 0.5 is considered a weak correlation (Cooper & Schindler, 2003). For the goal internalization factor, a Pearson coefficient of 0.244 demonstrates that a direct relationship does exist, although also weak.

Published research often tests hypotheses at the 0.01 significance level; that is, the sample statistic will vary from the hypothesized population parameter one or fewer times in every 100 when the hypothesized population parameter is correct (Levin & Rubin, 1998). If a tested level of significance is greater than this level, the researcher must

consider the validity or significance of the results, as there are many unknown factors that are impacting the results. For the motivational factor of instrumental, the measured significance level is 0.269, and for the factor of goal internalization the measured significance level is 0.953, meaning in both cases that the data is not significant at the 0.01 level and could be caused by chance or coincidence.

The coefficient of determination ( $r^2$ ) is used to describe the percentage of the data that is represented by the line of best fit. For the motivational factor of instrumental, the coefficient of determination of 0.0261 means that 2.61% of the data is explained by the linear equation representing the line of best fit. In other words, the remaining 97.39% of the data is unable to be explained by the linear regression model. For the motivational factor of goal internalization, the coefficient of determination of 0.0598 means that 5.98% of the data is explained by the linear equation representing the line of best fit. In other words, the remaining 94.02% of the data is unable to be explained by the linear regression model.

Based on the analysis conducted, H2 is supported by the visual inspection of the means; however, the standard deviation of the means demonstrates significant variance. In addition, the hypothesis is not supported by the correlation coefficient or the coefficient of determination.

H3 predicted that as a working group moves along the continuum to high-performance, the source of individual motivation will move in the direction of goal internalization. Means were calculated for each of the motivational factors at the various levels of team development and the results were plotted in graphical form.

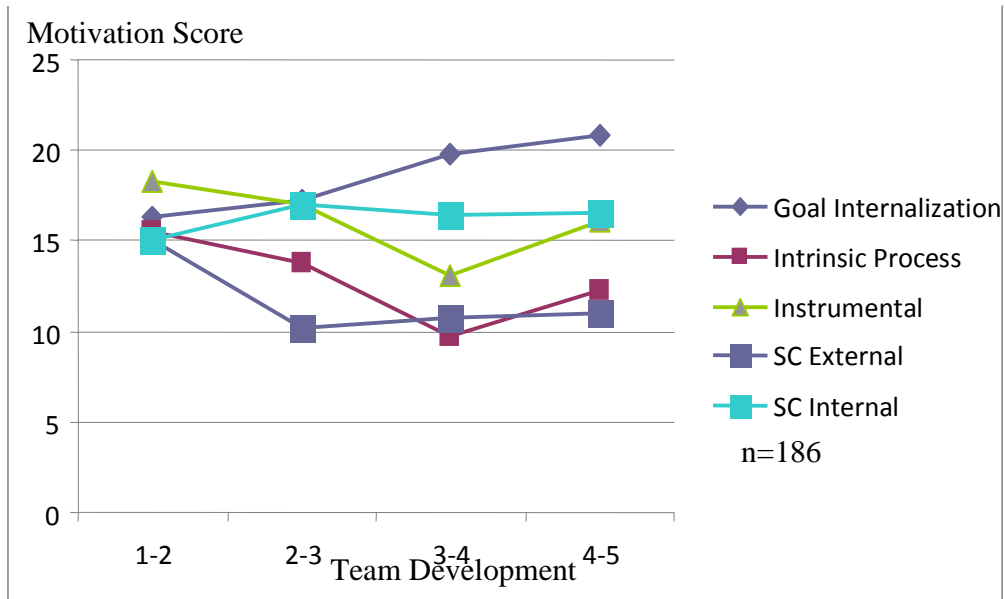


Figure 6. Summation of means from Motivation Sources Inventory

A visual inspection of Figure 6 shows that at each level of team development, the mean of the goal internalization motivational factor increases, as suggested by the hypothesis.

A simple regression analysis was conducted for each motivational factor and the level of team development. Figures 7 through 11 show the results of these regression analyses.

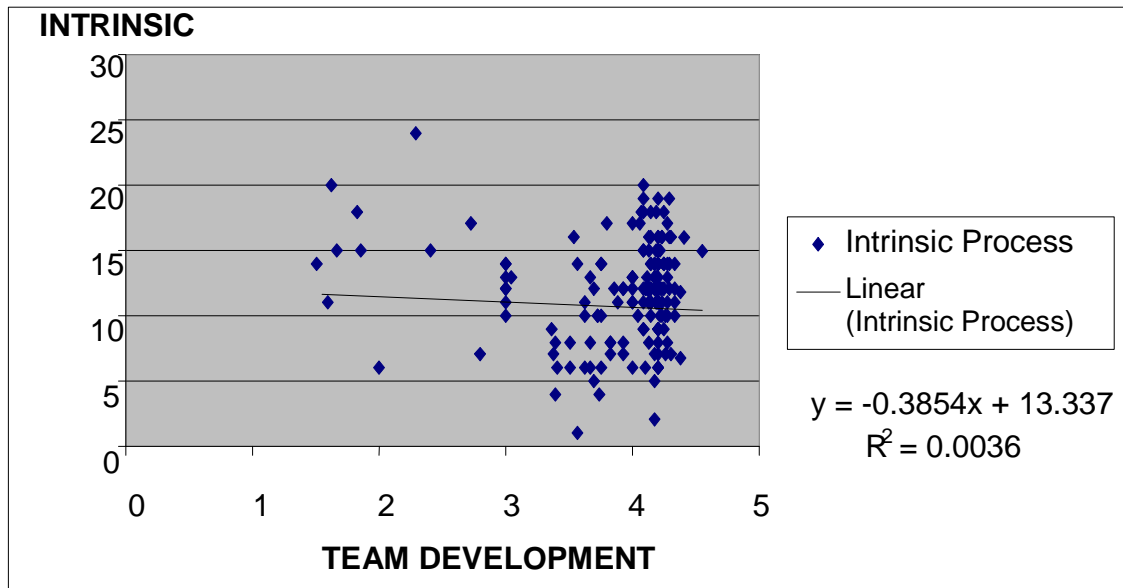


Figure 7. Scatter plot and regression analysis for intrinsic process and level of team development

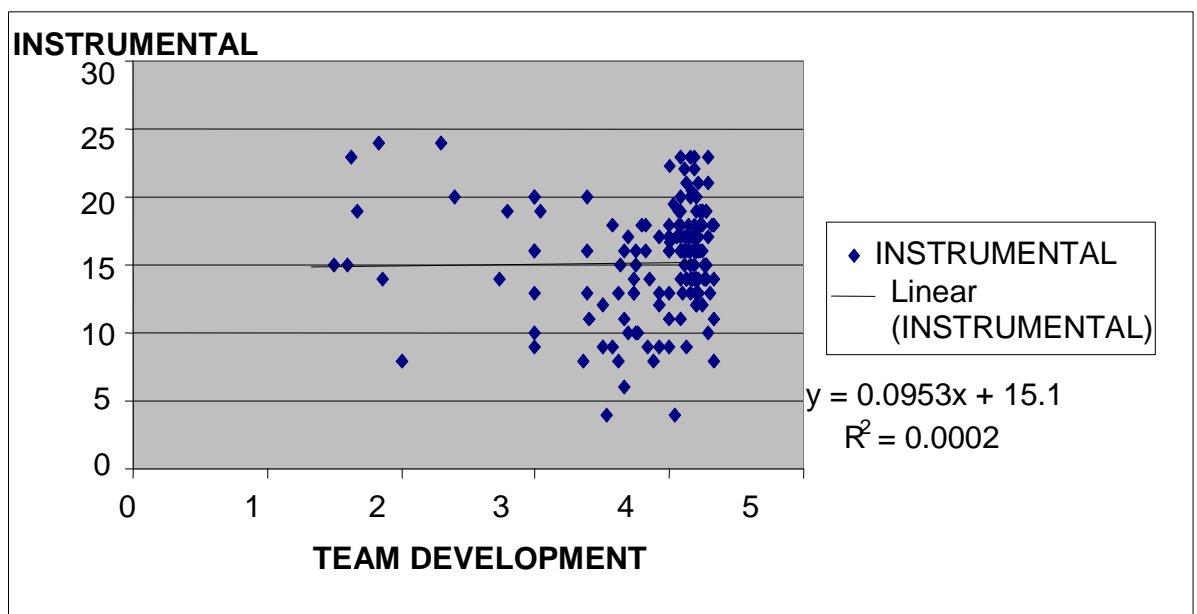


Figure 8. Scatter plot and regression analysis for instrumental and level of team development

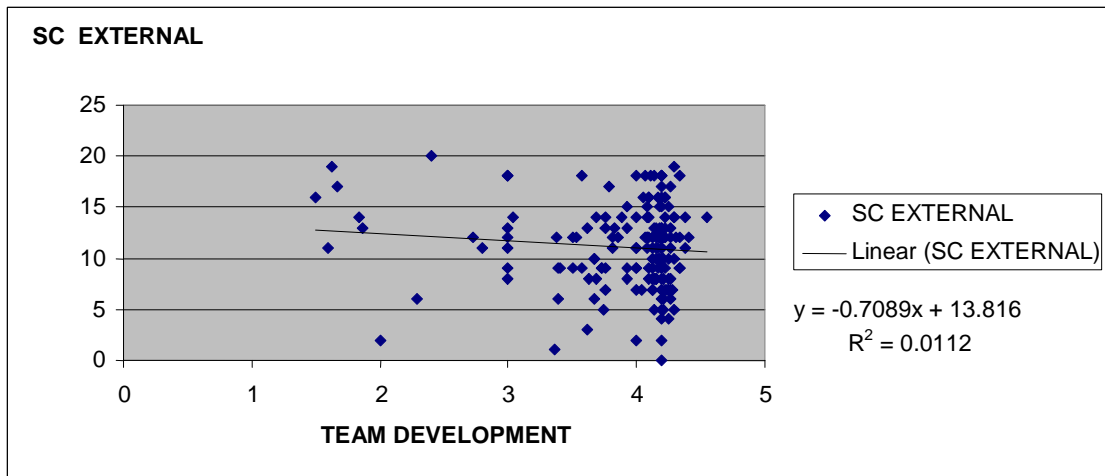


Figure 9. Scatter plot and regression analysis for SC external level of team development

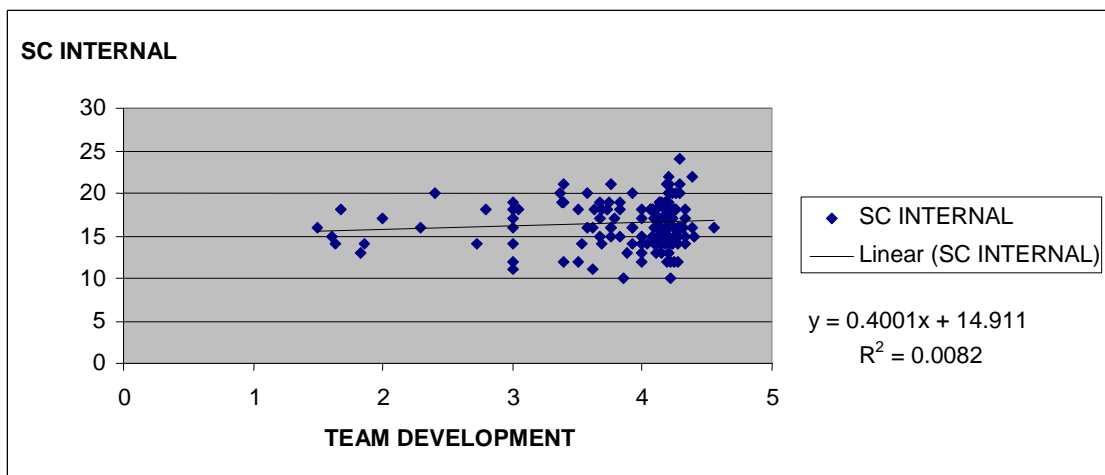


Figure 10. Scatter plot and regression analysis for SC internal level of team development

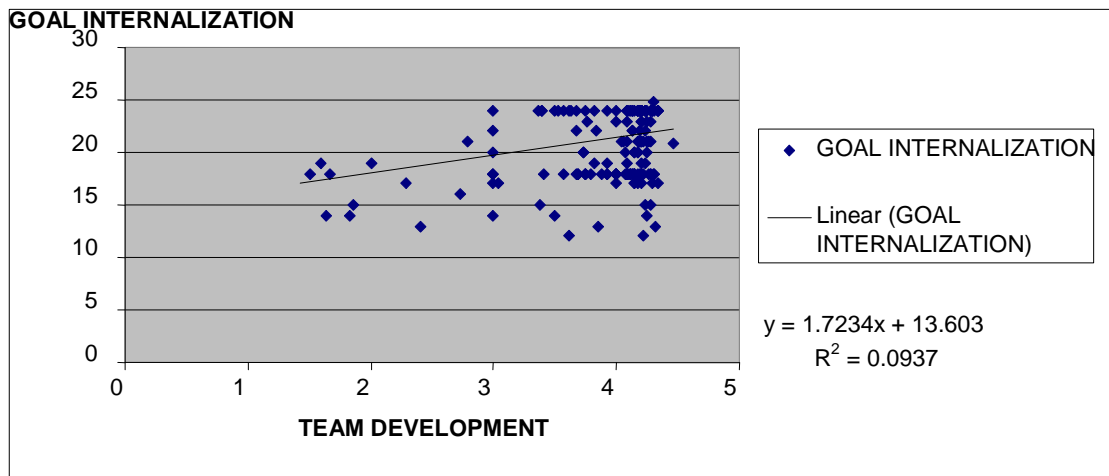


Figure 11. Scatter plot and regression analysis for goal internalization level of team development

The results of the regression and the best fit line were used to calculate the coefficient of determination ( $r^2$ ), and SPSS was used to calculate the Pearson Correlation Coefficient ( $r$ ) as well as the significance level for each motivational factor. The results appear in Table 5.

Table 5. Summary of Regression Analysis

Motivational Factor	Pearson Correlation Coefficient (r)	Coefficient of Determination ( $r^2$ )	Significance (p)	Sample Size (n)
Intrinsic	0.061	0.047	0.419	186
Instrumental	0.015	0.000	0.846	186
SC External	0.106	0.011	0.157	186
SC Internal	0.091	0.008	0.224	186
Goal Internalization	0.306	0.094	0.000	186

The Pearson Correlation Coefficient is used to determine the type of relationship that exists between the dependent variable and the independent variable. The Pearson Correlation Coefficient for the intrinsic process factor is 0.061; for the instrumental factor 0.015; for the SC external factor 0.106; for the SC internal factor 0.01; and for the goal internalization factor 0.306. Each of these Pearson coefficients demonstrates a direct relationship with motivation as teams progress along the continuum. Although a relationship was noted for each motivation factor, all five factors are considered to demonstrate weak correlation, as the correlation factors were less than 0.5 (Cooper & Schindler, 2003).

Published research often tests hypotheses at the 0.01 significance level; that is, the sample statistic will vary from the hypothesized population parameter one or fewer times in every 100 when the hypothesized population parameter is correct (Levin & Rubin, 1998). If a tested level of significance is greater than this level, the researcher must consider the validity or significance of the results, as there are many unknown factors that are impacting the results. For the motivational factor of goal internalization, the measured significance level is zero, meaning that the data is significant at the 0.01 level and is not caused by chance or coincidence. Other factors did not qualify as significant in this particular study.

The coefficient of determination ( $r^2$ ) is used to describe the percentage of the data that is represented by the line of best fit. For the motivational factor of goal internalization, the coefficient of determination of 0.094 means that 9.4% of the data is



explained by the linear equation representing the line of best fit. In other words, the remaining 90+% of the data is unable to be explained by the linear regression model.

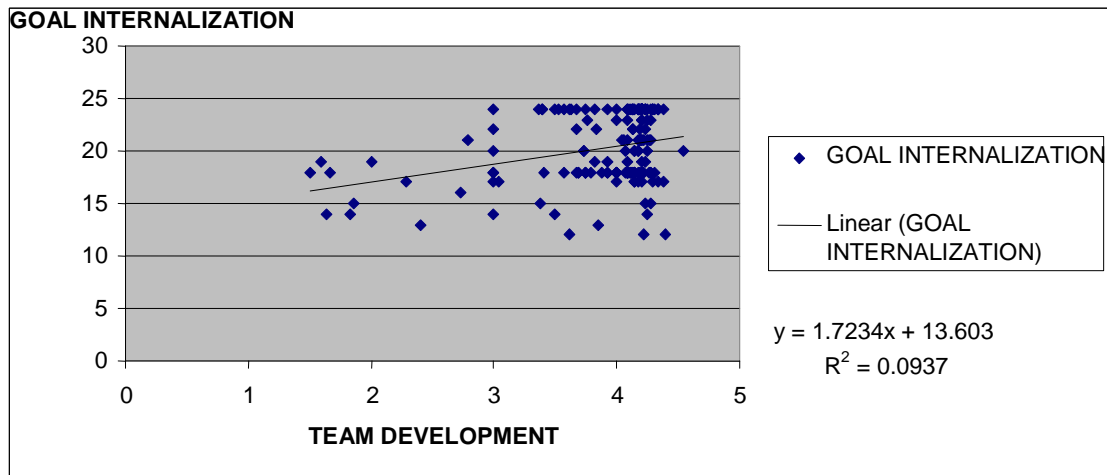


Figure 12. Goal internalization and team development

Based on the analysis conducted, H3 is supported by the visual inspection of the means, but is not supported by the correlation coefficient or the coefficient of determination.

Table 6. Summation of Means from Motivation Sources Inventory

Team	Goal Internalization/ (Std. Dev)	Intrinsic Process/ (Std. Dev)	Instrumental/ (Std. Dev)	SC External/ (Std. Dev)	SC Internal/ (Std. Dev)	Sample Size (n)
1-2	16.71 (2.29)	14.14 (4.60)	16.86 (5.58)	13.14 (5.58)	15.29 (1.80)	7
2-3	18.18 (3.34)	13.55 (4.37)	16.45 (4.66)	12.55 (4.44)	15.91 (2.88)	11
3-4	19.86 (3.39)	9.75 (3.65)	13.11 (3.85)	10.32 (3.82)	16.27 (2.76)	44
4-5	20.92 (3.07)	12.31 (3.38)	16.18 (3.18)	11.06 (3.75)	16.67 (2.51)	118

### General Summary of the Data

In general summary it could be observed that the sample population consisted of a large number of highly developed teams (high-performing teams and real teams) and few less developed teams (working group, pseudo team and potential team). In addition, it could be observed that a significant number of participants in the study were motivated by internal self-concept and goal internalization motivational factors with significantly fewer participants motivated by intrinsic process, instrumental, and external self-concept motivational factors, regardless of level of team development.

H1 predicted that individuals belonging to working groups and pseudo teams would be more individually motivated by extrinsic motivational sources than by intrinsic or goal internalization motivational sources. A visual observation of the arithmetic mean appeared to support the hypothesis; however, the standard deviation of the means demonstrated significant deviation from the mean. The simple regression analysis, the Pearson Correlation Coefficient, and the coefficient of determination did not support the hypothesis.

H2 predicted that individuals belonging to high-performing teams will be more motivated by goal internalization than by extrinsic motivation sources. A visual observation of the arithmetic mean appeared to support the hypothesis; however, the standard deviation of the means demonstrated significant deviation from the mean. The simple regression analysis, the Pearson Correlation Coefficient, and the coefficient of determination did not support the hypothesis.

H3 predicted that as a working group moves along the continuum to high-performance, the source of individual motivation will move in the direction of goal internalization. A visual observation of the arithmetic mean appeared to support the hypothesis; however, the standard deviation of the means demonstrated significant deviation from the mean. The simple regression analysis, the Pearson Correlation Coefficient, and the coefficient of determination did not support the hypothesis.

In Chapter 5, conclusions and implications for future research will be drawn from this analysis.

## CHAPTER 5. DISCUSSION, IMPLICATIONS, RECOMMENDATIONS

### Introduction

This quantitative study was undertaken with the intention that a relationship could be established between the level of team development and individual motivation. The final chapter of this dissertation will provide a summary and discussion of the data presented in Chapter 4, the conclusions from the study, and recommendations for future research.

### Summary and Discussion of Data

Teamwork has become a primary vehicle utilized by organizations to improve effectiveness, and high performance teams are considered to be the ultimate form of teamwork. While individuals have been relied upon to accomplish the mission of organizations for many years, the team initiative is a veritable newborn in comparison. To derive the most significant benefits from the human resources employed within an organization, individual motivation has been studied in great detail and seminal works have developed revolving around team motivation. Beginning with these thoughts as a premise, this study sought to determine if a relationship could be established between the level of team development and individual motivation. In other words, does the level of team development impact the sources of motivation for a worker in individual, non-team assignments?

This quantitative study was conducted using a survey comprised of two questionnaires: the Motivation Sources Inventory to measure the individual motivational

factors, and the Team Performance Survey to measure the level of team development. A sample population was chosen from several organizations using a non-random sampling methodology. Although a non-random methodology is often considered to be less precise than random sampling, in some cases it is appropriate when participants are chosen in conformance with specific criterion (Cooper & Schindler, 2003). In this case, participants were selected if they were members of a team in the workplace having team responsibilities, and if they had individual work responsibilities beyond those of the team, with individual accountability. In all cases participation was completely voluntary and anonymous.

The survey was administered via a web-based survey instrument; the data was gathered and presented in Chapter 4 of this dissertation. The data was analyzed using the arithmetic mean, standard deviation, scatter plots, the Pearson's Product Moment Correlation Coefficient, simple regression analysis, and the coefficient of determination. A discussion regarding these findings is presented in the following paragraphs.

In general, it was observed that the sample population consisted of a large number of highly developed teams (high-performing teams and real teams) and few less developed teams (working group, pseudo team and potential team). It was also observed that a significant number of participants in the study were motivated by internal self-concept and goal internalization motivational factors with significantly fewer participants motivated by intrinsic process, instrumental, and external self-concept motivational factors, regardless of level of team development.

H1 predicted that individuals belonging to working groups and pseudo teams would be more individually motivated by extrinsic motivational sources than by intrinsic or goal internalization motivational sources. When the data was plotted in a scatter plot, visual observation appeared to support this hypothesis; however, the standard deviation demonstrated significant variation. In addition, all other statistical techniques used in the analysis did not support the hypothesis.

H2 predicted that individuals belonging to high-performing teams would be more motivated by goal internalization than by extrinsic motivation sources. When the data was plotted in a scatter plot, visual observation appeared to support this hypothesis; but once again, the standard deviation demonstrated significant variation. In addition, all other statistical techniques used in the analysis did not support the hypothesis.

H3 predicted that as a working group moved along the continuum to high-performance, the source of individual motivation will move in the direction of goal internalization. When the data was plotted in a scatter plot, visual observation appeared to support this hypothesis; however, the standard deviation demonstrated significant variation. In addition, all other statistical techniques used in the analysis did not support the hypothesis.

### Conclusions from the Study

Although the results of this study do not support the original premise that a relationship could be established between the level of team development and individual motivation, it cannot be concluded that a relationship does not exist. The logic of

hypothesis testing is always conditional; when the results of research fail to support the hypotheses it does not mean that the hypotheses are incorrect, but rather, that they are not supported considering the specific data set used (Levin & Rubin, 1998).

When the data do not support the hypotheses, it is necessary to look back at the hypotheses for possible explanations. It is possible that the hypotheses are incorrect; a review of the literature analyzed, the interpretation of that literature, and the reasoning used in developing the hypotheses needs to be questioned. It should also be considered that the data used to test the hypotheses may be inappropriate, or the variables selected to measure the concepts may not be effective (Cooper & Schindler, 2003).

In general, it was observed that the sample population consisted of a large number of highly developed teams (high-performing teams and real teams) and few less developed teams (working group, pseudo team and potential team). As the intent of the study was to measure the factors of motivation across the various levels of team development, the sample population did not accurately reflect the desired population. When large clusters of data appear in a scatter plot, it is suggested that the correlation is found first, prior to attempting a regression analysis and associated line of best fit (Rumsey, 2003). In all cases in this research a visual observation of the scatter plots revealed an apparent relationship between the variables; however, the correlation was weak in all cases as well. If the correlation is weak, the data is not sufficient to make predictions about a population (Rumsey, 2003).

It was also observed that a significant number of participants in the study were motivated by internal self-concept and goal internalization motivational factors with

significantly fewer participants motivated by intrinsic process, instrumental, and external self-concept motivational factors, regardless of level of team development. Prior research using the Motivation Sources Inventory successfully demonstrated relationships with influence tactics (Barbuto & Scholl, 1999), as well as transformational behaviors (Barbuto, Fritz, & Marx, 2000). In addition, this instrument was used in applied research with immigrant students' adjustment to a new learning environment (Tsytarev & Lantsman, 1999) as well as organizational citizenship and altruistic behaviors (Barbuto, Brown, Wheeler, & Wilhite, 2003). In 2004 it also was used to demonstrate sources of motivation of adult rural workers (Barbuto, Trout, & Brown, 2004). In all of these cases the sample population had the desired attributes for the study of motivational factors only, as a stratified or cluster sampling technique was used to select the sample population. In a stratified sample, the overall population is divided into subpopulations based on specific criteria, and then a simple random sample is used on each strata. Cluster sampling divides the overall population into internally heterogeneous subgroups with some then selected randomly for future study (Cooper & Schindler, 2003). In this research study a non-random, judgmental sampling technique was used to obtain participants based on the simple criteria that the participant did in fact belong to a team in the workplace. Judgmental sampling of this type selects participants that conform to some specific criterion, and is appropriate in early stages of an exploratory study (Cooper & Schindler, 2003). In hindsight, the criterion of belonging to a team was not specific enough to obtain the appropriate sample, and a cluster sampling methodology would have eliminated the large clusters of data noted in this study. Using an alternative sampling



technique would have allowed for an equal representation of the five levels of team development within the study, and then the measurement of the motivational factors using the Motivation Sources Inventory would more accurately replicate prior validated studies.

The factors of motivation measured in the Motivation Sources Inventory are not mutually exclusive; in other words, it is possible, and not at all unusual for participants to exhibit more than one source of motivation. “A Likert scale reflects a level of preference or opinion, typically measured on a five-point ordinal scale” (Nardi, 2006, p. 56) and is often used to measure the intensity of a feeling or opinion when they cannot be simply characterized as yes or no, agree or disagree (Nardi, 2006). In all prior uses of this instrument, the sample population had predetermined demographic attributes which allowed for the study of motivational factors only, and the statistical analysis was based solely on these motivational factors. As this research attempted to determine level of team development and sources of motivation, an index to measure motivation would have been more appropriate considering the judgmental sample used. “An index is a set of items that measure some underlying and shared concept” (Nardi, 2006, p. 56) which are then combined to create a single number which serves as an indicator of the underlying concept being measured (Nardi, 2006). For purposes of this exploratory research, having one index representing the primary source of motivation would eliminate the ambiguities evident due to the factors of motivation not being mutually exclusive in the Motivation Sources Inventory.

This research used data obtained from several organizations, including a major national retail chain, a regional financial services firm, and a local not for profit agency. Although the organizations deemed that the participants belonged to various types of work teams, the only consideration for purposes of this study was that each individual did, in fact, belong to a team in the workplace regardless of the title given to that team. In addition, participation in the study was completely voluntary and anonymous. “The exigencies of carrying out real world studies can mean that the requirements for representative sampling are difficult, if not impossible, to fulfill” (Robson, 2003, p. 266). As this was non-random sampling, non-response can be a very serious concern, as those that do respond may not be representative of those that do not respond. “Critical to understanding human behavior is knowing how opinions and behavior vary across different categories of people” (Nardi, 2006, p.84). In an effort to maintain confidentiality in this research, no demographic information was requested of the participants. Demographic questions would have added value in terms of determining the level at which a respondent worked in an organization, the amount of training the individual received for teamwork, the amount of time the individual worked within the team versus individual work assignments, and other relevant factors. As the data revealed a large number of more highly developed teams, one could possibly assume a high degree of team training or a significant amount of time working within a team environment. As the data also revealed a large number of individuals that were motivated by goal internalization and internal self-concept, it would be possible to assume that the individuals were motivated by intrinsic sources, regardless of team development or

individual work assignment. Without access to demographic data, no inferences of this type can reliably be made in this study.

During the time period that the survey was available on the secure website, 18 surveys were started but not completed, representing a 10% non-completion rate. It is possible that these respondents did not complete the survey due to the nature of the questions themselves, or they may not have known how to respond based on conflicting motivations regarding the survey. Although a participant may belong to a team as a requirement of their position in an organization, their true preference could be to work alone. It is also possible that the time required to complete the survey was greater than they anticipated. Rather than completing the survey that they did not feel comfortable with or sure about, they may have simply not completed the survey.

It is possible that the respondents to the survey, or the superiors in their organization, held a different idea of team than this study envisioned. An employee may officially be a member of a large and complex team such as a New Product Development team, and yet due to the magnitude and complexity of the team they really do not consider themselves as members of that team. Rather, they may consider the informal group that they work with in the office on a daily basis as the team they belong to. If the participant is not sure of the team they belong to or are responding about, it could lead to conflicting information in the survey responses.

A portion of the responses in this survey were provided by employees of a local not for profit agency, and it is possible that their source of individual motivation is significantly different from those that are employed in the public sector. Although they

could, in fact, belong to teams that are quite developed, the level of team development may not be a contributing factor to their individual motivation.

Finally, it may be difficult for an individual to assess their own source of motivation, particularly with the types of questions asked in survey research. In day-to-day life they may find that simple sources of motivation drive their activities (“I just want to get this off of my desk”) rather than focusing on longer term sources of motivation as intended in this type of career-based survey.

### Recommendations for Future Research

Further research is essential in order to establish a relationship between the level of team development and individual motivation. As more and more organizations focus on the use of teams, and developing those teams, the impact of that teamwork on the individual motivational factors needs to be properly assessed and measured.

Future research should be conducted using a more representative sample population. Using demographic qualifiers, as well as alternative forms of selecting the sample population, may lead to more reliable and accurate data. The demographic information should include the participant’s views on their specific team responsibilities and involvement in those teams, as well as their thoughts on the team itself and teamwork in general. In addition, a larger sample population would be more desirable.

The factors of motivation measured in the Motivation Sources Inventory are not mutually exclusive, which allows for a respondent to have more than one primary factor of motivation. Future research should consider use of an index to determine a general

motivation level which can then be correlated with level of team development. Once the relationship between level of team development and individual motivation is established, further research can consider the specific factors of motivation as in the Motivation Sources Inventory.

It would be interesting to study the relationship between an individual's motivation outside of the workplace as compared to in the workplace, and then correlate that to the level of team development. Intuitively it would seem evident that an individual with little motivation outside of the workplace would have little motivation in the workplace as well. How would membership in a highly-developed team correlate to an overall lack of individual motivation? It might also be interesting to study the factors of motivation when the team a respondent belongs to is known. To minimize the variables in the survey data, it would be helpful to compare data from several members of the same team in order to demonstrate different levels of team development or varying sources of motivation.

Additionally, further research should consider the length of time a team has been together, in addition to the level of team development. It is possible that motivational factors will change over time, rather than based on level of team development. In addition, consideration could be given to the job responsibilities of the respondent, both within the team and outside the team to determine the impact on motivation.

Although the results of this study do not support the original premise that a relationship could be established between the level of team development and individual motivation, it cannot be concluded that a relationship does not exist. Future research

should focus on these topics, considering the importance of both individual motivation and teams in the workforce today. Much work still lies ahead.

## REFERENCES

- Adams, J. (1963). Toward an understanding of inequity. *Journal of Abnormal and Social Psychology*, 67, 422.
- Alderfer, C. (1969). An empirical test of a new theory of human needs. *Organizational Behavior and Human Performance*, 4, 142.
- Amabile, T. (1997). Entrepreneurial creativity through motivational synergy. *Journal of Creative Behavior*, 31(1), 18.
- Amabile, T., Hill, K., Hennessey, B., & Tighe, E. (1994). The work preference inventory: Assessing intrinsic and extrinsic motivational orientations. *Journal of Personality and Social Psychology*, 66(5), 950.
- Ammeter, A., & Dukerich, J. (2002). Leadership, team building, and team member characteristics in high-performance project teams. *Engineering Management Journal*, 14(4), 3.
- Argyris, C. (1957). *Personality and organization: The conflict between the system and the individual*. New York: Harper and Row.
- Atkinson, J. & Birch, D. (1970). *The dynamics of action*. New York: Wiley.
- Bales, R., & Strodtbeck, F. (1951). Phases in group problem solving. *Journal of Abnormal Social Psychology*, 46, 485.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37, 122.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy, the exercise of control*. New York: W.H. Freeman and Company.
- Barbuto, J., Brown, L., Wheeler, D., & Wilhite, M. (2003). Motivation, altruism, and generalized compliance: a field study of organizational citizenship behaviors. *Psychological Reports*, 92, 498.

- Barbuto, J., Fritz, S., & Marx, D. (2000). A field study of two measures of work motivation for predicting leaders' transformational behaviors. *Psychological Reports*, 86, 295.
- Barbuto, J., & Scholl, R. (1998). Motivation Sources Inventory: Development and validation of new scales to measure an integrative taxonomy of motivation. *Psychological Reports*, 82, 1011.
- Barbuto, J., & Scholl, R. (1999). Leader's sources of motivation and perceptions of follower's motivation as predictors of leader's influence tactics used. *Psychological Reports*, 84, 1087.
- Barbuto, J., Trout, S., & Brown, L. (2004). Identifying sources of motivation of adult rural workers. *Journal of Agricultural Education*, 45(3), 11.
- Berkowitz, L., & Levy, B. (1956). Pride in group performance and group-task motivation. *Journal of Abnormal Psychology*, 53, 300.
- Blake, R., & Mouton, J. (1978). *The new managerial grid*. Houston, TX: Gulf Publishing Company.
- Blanchard, K., Carew, D., & Parisi-Carew, E. (2000). *The one-minute manager builds high-performance teams*. New York: William Morrow and Company.
- Bucchald, S., & Roth, T. (1989). *Creating the high-performance team*. New York: John Wiley & Sons.
- Campbell, D., & Fiske, D. (1959). Convergent and discriminant validation by the multitrait-multimatrix method. *Psychological Bulletin*, 5, 81.
- Campbell, D. (1991). Goal levels, complex tasks, and strategy development: A review and analysis. *Human Performance*, 4, 1.
- Campbell, J., McCloy, R., Oppler, S., & Sager, C. (1993). A theory of performance. In Schmidt, N., & Borman, W. (eds.), *Personnel selection in organizations*. San Francisco, CA: Jossey-Bass.
- Champagne, P., & McAfee, R. (1989). *Motivation strategies for performance and productivity*. New York: Quorum Books.
- Collins, M. (1995). High-performance teams and their impact on organizations. *Journal for Quality and Participation*, 18(7), 24.



- Cooper, D., & Schindler, P. (2003). *Business research methods*, 8<sup>th</sup> ed. New York: McGraw-Hill Companies.
- Creswell, J. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*, 2<sup>nd</sup> ed. Thousand Oaks, CA: Sage Publications.
- deCharms, R. (1968). *Personal causation: the internal affective determinants of behavior*. New York: Academic Press.
- Deci, E. (1975). *Intrinsic motivation*. New York: Plenum.
- Donnelly, R., & Kezbom, D. (1994). Do project teams walk their talk? Survey research on team effectiveness. *American Association of Cost Engineers Transactions*.
- Drew, S., & Coulson-Thomas, C. (1997). Transformation through teamwork: the path to the new organization? *Team Performance Management*, 3(3), 162.
- Etzioni, A. (1975). *A comparative analysis of complex organizations*. New York: MacMillan Publishing.
- Fandt, P. (1991). The relationship of accountability and interdependent behavior to enhancing team consequences. *Group and Organization Studies*, 16, 300.
- Festinger, L. (1950). Informal social communication. *Psychological Review*, 69, 271.
- Francis, D., & Young, D. (1992). *Improving work groups: a practical manual for team building*. San Diego, CA: Pfeiffer & Company.
- George, T., & Feltz, D. (1995). Motivation in sport from a collective efficacy perspective. *International Journal of Sports Psychology*, 26(1), 98.
- Gomez-Mejia, L., & Balkin, D. (1992). *Compensation, organizational strategy, and firm performance*. Cincinnati, OH: South-Western Publishers.
- Grant, P. (1990). *The effort-net return model of employee motivation: Principles, propositions, and prescriptions*. New York: Quorum Books.
- Guzzo, R., & Shea, G. (1992). Group performance and intergroup relations in organizations. In Dunnette & Hough (eds.), *Handbook of industrial and organizational psychology*. Palo Alto, CA: Consulting Psychologists Press.
- Guzzo, R. (1995). Introduction: At the intersection of team effectiveness and decision making. In Guzzo, R. Salas, E. and associates (eds.), *Team effectiveness and decision making in organizations*. San Francisco, CA: Jossey Bass Publishing.

- Hackman, R., Lawler, E. (1971). Employee reactions to job characteristics. *Journal of Applied Psychology*, 55, 259.
- Hackman, R. (1978). The design of self-managing work groups, in King, B., Streufert, S., & Fiedler, F (eds.). *Managerial Control and Organizational Democracy*. Washington, DC: Winston.
- Hagen, R. (1985). Team building. *Manage*, First quarter 1985, 28.
- Harcum, E., & Badura, L. (1990). Social loafing as response to an appraisal of appropriate effort. *The Journal of Psychology*, 124(6), 629.
- Haskins, M., Liedtka, J., & Rosenblum, J. (1998). Beyond teams: toward an ethic of collaboration. *Organizational Dynamics*, Spring 1998, 34.
- Hersey, P., & Blanchard, K. (1982). *Situational Leadership*. New York: Warner Books.
- Herzberg, F., Mausner, B., & Snyderman, B. (1959). *The Motivation to Work*. New York: Wiley.
- Hinds, P., Scandret-Hibden, & McAuley, L. (1990). Further assessment of a method to estimate reliability and validity of qualitative research findings. *Journal of Advanced Nursing*, 15, 430.
- Hodges, L., & Carron, A. (1992). Collective efficacy and group performance. *International Journal of Sports Psychology*, 17(5), 390.
- Hoenig, C. (2000). *The problem solving journey: Your guide to making decisions and getting results*. Cambridge, MA: Perseus Publishing.
- Hollenbeck, J., Brief, A., Whitener, E., & Pauli, K. (1988). An empirical note on the interaction of personality and aptitude in personnel selection. *Journal of Management*, 14, 81.
- House, R., Shane, S., & Herold, D. (1996). Rumors of the death of dispositional research are vastly exaggerated. *Academy of Management Review*, 21, 203.
- Hughes, R., Rosenbach, W., & Clover, W. (1983). Team development in an intact, ongoing work group: A quasi field experiment. *Group and Organizational Studies*.
- Isaac, S., & Michael, W. (1990). *Handbook in research and evaluation*. San Diego, CA: EdITS Publishers.

- Jick, T. (1979). Mixing qualitative and quantitative methods: Triangulation in action. *Administrative Science Quarterly*, 24, 602.
- Karau, S., & Williams, K. (1993). Social loafing: A meta-analytic review and theoretical integration. *Journal of Personality and Social Psychology*, 65(4), 681.
- Katz, D. & Kahn, R. (1968). *The social psychology of organizations* 2<sup>nd</sup> ed.). New York: Wiley.
- Katzenbach, J., & Smith, D. (1993). *The wisdom of teams*. New York: McKinsey & Company.
- Kelman, H. (1958). Compliance, identification, and internalization: three processes of attitude change. *Journal of Conflict Resolution*, 2, 51.
- Kerzner, H. (1992). *Project management: A systems approach to planning, scheduling and controlling*, 4<sup>th</sup> ed. Van Nostrand Reinhold, New York.
- Ketchum, L., & Trist, E. (1992). *All teams are not created equal: How employee empowerment really works*. Newbury Park, CA: Sage Publications.
- Kets De Vries, M. (1999). High-performance teams: lessons from the pygmies. *Organizational Dynamics*, Winter 1999, 66.
- Korman, A. (1970). Toward a hypothesis of work behavior. *Journal of Applied Psychology*, 56, 31.
- LaFasto, F., & Larson, C. (2001). *When teams work best: 6000 team members and leaders tell what it takes to succeed*. Thousand Oaks, CA: Sage Publications.
- Landy, F., & Becker, L. Motivation theory reconsidered. *Research in Organizational Behavior*, 9, 138.
- Lawler, E. (1968). Equity theory as a predictor of productivity and work quality. *Psychological Bulletin*, 70, 596.
- Lawler, E. (1981). *Pay and organization development*. Reading, MA: Addison-Wesley.
- Lawler, E. (1987). Pay for performance: A motivational analysis, in Nalbantian, H. (ed.) *Incentives, cooperation, and risk sharing*. Totowa, NJ: Rowman and Littlefield.
- Lee, C. (1990). Beyond teamwork. *Training*, 25, 32.

- Leonard, N., Beauvais, L., & Scholl, R. (1999). Work motivation: the incorporation of self-concept-based processes. *Human Relations*, 52(8), 969.
- Levin, R., & Rubin, D. (1998). *Statistics for management*, 7<sup>th</sup> ed. Upper Saddle River, NJ: Prentice Hall.
- Lewin, K. (1943). Defining the “field at a given time.” *Psychological Review*, 50, 292.
- Lewin, K. (1947). Group decision and social change, in Maccoby, E., Newcomb, T., & Harley, E. (eds.), *Readings in social psychology*. New York: Holt, Rinehart, and Winston.
- Likert, R. Motivational approach to management development. *Harvard Business Review*, 37 (4), 75.
- Litwin, M. (1995). *How to measure survey reliability and validity*. Thousand Oaks, CA: Sage Publications.
- Locke, E. (1966). The relationship of intentions to level of performance. *Journal of Applied Psychology*. 50, 60.
- Locke, E., & Latham, G. (1990). *A theory of goal setting and task performance*. Englewood Cliffs, NJ: Prentice-Hall.
- Locke, E. (1991). The motivation sequence, the motivation hub, and the motivation core. *Organizational Behavior and Human Decision Processes*, 50, 288.
- Locke, E., and Henne, D. (1986). Work motivation theories. In C. L. Cooper and I. Robertson (Eds.). *International review of industrial and organizational psychology*. Chichester, England: Wiley.
- Locke, E., & Latham, G. (1990b). Work motivation and satisfaction. *American Psychological Society*, 1(4), 240.
- Likert, R. (1961). Motivational approach to management development. *Harvard Business Review*, 37, 70.
- Lautenschlager, G. (1989). A comparison of alternatives to conducting Monte Carlo analyses for determining parallel analysis criteria. *Multivariate Behavioral Research*, 24, 365.
- Maslow, A. (1943). A theory of human motivation. *Psychological Review*, 50, 394.

- Matsui, T., Kakuyama, T., & Onglatco, L. (1987). Effects of goals and feedback on performance in groups. *Journal of Applied Psychology*, 72(3), 407.
- Maxwell, J. (2005). *Qualitative research design: an interactive approach*. Thousand Oaks, CA: Sage Publications.
- McCall, M. & Lombardo, M. editors. (1978). *Leadership: Where else can we go?* Durham, NC: Duke University Press.
- McClelland, D., Atkinson, J., Clark, R., & Lowell, E. (1953). *The achievement motive*. New York: Appleton-Century-Crofts.
- McClelland, D. (1961). *The achieving society*. Princeton, NJ: Van Nostrand.
- McGregor, D. (1960). *The human side of enterprise*. New York: McGraw-Hill Publishing.
- McGregor, D. (1967). *The professional manager*. New York: McGraw-Hill Publishing.
- McMillan, J., & Schumacher, S. (2001). *Research in education: A conceptual introduction*, 5<sup>th</sup> ed. New York: Longman Publishing.
- MacMillan, P. (2001). *The performance factor: unlocking the secrets of teamwork*. Nashville, TN: Broadman & Holman Publishers.
- Miles, M., & Huberman, A. (1994). *Qualitative data analysis: an expanded sourcebook*, 2<sup>nd</sup> ed. Thousand Oaks, CA: Sage Publications.
- Mink, O., Mink, B., & Owen, K. (1987). *Groups at work*. Englewood Cliffs, NJ: Educational Technology Publications.
- Mitchell, T., Green, S., & Wood, R. (1981). An attributional model of leadership and the poor performing subordinate: development and validation. *Research in Organizational behavior*. 3, 197.
- Miner, J. (2005). *Organizational Behavior I: Essential theories of motivation and leadership*. Armonk, NY: M.E. Sharp.
- Nadler, D., & Lawler, E. (1989). Motivation: A diagnostic approach. In Leavitt, H., Pondy, L., & Boje, D. (eds.), *Readings in managerial psychology* 4<sup>th</sup> ed. Chicago, IL: The University of Chicago Press.
- Nardi, P. (2006). *Doing survey research: A guide to quantitative methods*. Boston, MA: Pearson Education, Inc.

- Peters, J. (1997). *An empirical correlation of Maslow's hierarchy of needs levels and team performance*. Huntsville, AL: The University of Alabama at Huntsville.
- Pintrich, P., & Schunk, D. (1996). *Motivation in education: Theory, research, and applications*. Englewood Cliffs, NJ: Prentice Hall.
- Poole, M., & Roth, J. (1989). Decision development in small groups IV. *Human Communications Research*, 15(3), 323.
- Pritchard, R., Jones, S., Roth, P., Stuebing, K., & Ekeberg, S. (1988). Effects of group feedback, goal setting and incentives on organizational productivity. *Journal of Applied Psychology*, 73(2), 337.
- Rassel, G., & O'Sullivan, E. (1989). *Research methods for public administrator*. White Plains, NY: Longman Publishers.
- Robbins, H., & Finley, M. (2000). *The new why teams don't work: what goes wrong and how to make it right*. New York: Berrett-Koehler Publishers.
- Robson, C. (2002). *Real world research*, 2<sup>nd</sup> edition. Malden, MA: Blackwell Publishers.
- Rumsey, D. (2003). *Statistics for dummies*. Indianapolis, IN: Wiley Publishing.
- Rynes, S., & Lawler, J. (1983). A policy-capturing investigation of the role of expectancies in decisions to pursue job alternatives. *Journal of Applied Psychology*, 68, 620.
- Salas, E., Dickinson, T., Converse, S., & Tannenbaum, S. (1992). Toward an understanding of team performance and training. In Swezey, R. & Salas, E. (eds.) *Teams: Their training and performance*. Norwood, NJ: Ablex.
- Sam, R., & Galinsky, M. (1974). A conceptual framework for group development. In P. Glasser, R. Sarri, & R. Vinter, (Eds.), *Individual change through small groups* (71-88). New York: Free Press.
- Schuster, J., & Zingheim, P. (1992). *The new pay: Linking employee and organizational performance*. New York: Lexington Books.
- Senge, P. (1990). *The fifth discipline-the art and practice of the learning organization*. New York: Currency Doubleday.
- Shepperd, J., & Taylor, K. (1999). Social loafing and expectancy-value theory. *Personality and Social Psychology Bulletin*.

- Spector, P. (1992). *Summated rating scale construction: an introduction*. London: Sage Publications.
- Spink, K. (1990). Group cohesion and collective efficacy of softball teams. *Journal of Sports and Exercise Psychology*, 12, 301.
- Steiner, I. (1972). *Group process and productivity*. New York: Academic Press.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*, 2<sup>nd</sup> ed. Thousand Oaks, CA: Sage Publications.
- Swezey, R., & Salas, E. (Eds.) (1992). *Teams: Their training and performance*. Norwood, NJ: Ablex.
- Swezey, R., Meltzer, A., & Salas, E. (1994). Some issues involved in motivating teams. In *Motivation: Theory and Research*, H.F. O'Neil, Jr. & M Drillings, eds. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Taylor, F. (1947). *The principles of scientific management*. New York: Harper & Row.
- Tsytsarev, S., & Lantsman, M. (1999). *Acculturation and academic success of young Russian-speaking college students*. Unpublished thesis, Hofstra University.
- Tuckman, B. (1965). Developmental sequence in small groups. *Psychological Bulletin* 63(6), 384.
- Vroom, V. (1964). *Work and motivation*. New York: Wiley.
- Waller, J. (1996). Social loafing and the group evaluation effect: Effect of dissimilarity in a social-comparison standard. *Psychological Reports*, 78, 177.
- Weber, M. (1947). *The theory of social and economic organizations*. New York: Free Press.
- Weldon, E., & Weingart, L. (1993). Group goals and group performance. *British Journal of Social Psychology*, 32, 307.
- Wellins, R. (1994). *Inside teams: How 20 world-class organizations are winning through teamwork*. San Francisco, CA: Jossey-Bass.

- Williams, K., & Sommer, K. (1997). Social ostracism by coworkers: Does rejection lead to loafing or compensation? *Personality and Social Psychology Bulletin*, 23(7), 693.
- Wren, D. (1972). *The evolution of management thought*. New York: Ronald Press.
- Yin, R. (1993). *Applications of case study research*. Thousand Oaks, CA: Sage Publications.
- Zaccaro, S., Blair, V., Peterson, C., & Zazanis, M. (1995). Collective efficacy, In Maddux, J. (ed), *Self efficacy, adaptation, and adjustment*. New York: Plenum.



## APPENDIX A

### The Hypotheses of Peter Vaill

- 1) One may observe a great deal of experimentation and rehearsal in an HPS (high-performance system). Various ways of operating the system are tried. There seems to be only temporary fixation (if at all) on “the one best way” to operate the system.
- 2) No one kind of human behavior dominates the system. There is a considerable amount of shifting around among various manual and mental activities.
- 3) One may note members of the system paying attention to “arranging the environment” within which activity is going to occur. Things have to be “just right.” Failure to achieve the right arrangement of environmental conditions is sometimes cause for system members to fail to begin the activity, or to terminate it abruptly.
- 4) A prate language and set of symbols arise among members of the system for talking about its conduct and problems. These language systems relate to the nuances and complexities of the system’s operation. These language systems are often thought by outside observers to be unintelligible jargon, and the functionality of the language is missed.
- 5) Members evolve a set of indices of system performance that are system-specific and that may not relate easily to any other system, even one that is superficially identical.

- 6) When the system is not operating satisfactorily, relative to members' system-specific performance criteria, the members become greatly agitated and upset. The consequences of "failure" often seem to observers to be greatly magnified. Observers may feel members "take things too seriously."
- 7) There may be a public, objective theory or "rule book" about how to do the thing that the HPS is doing, but there will always be discrepancies between the public recipe and what the HPS is actually doing. this may be called the "Doug Sanders' backswing" hypothesis.
- 8) The initial involvement in the activity of the HPS will often have been voluntary for members and will have occurred when they were relatively young. AT some point the member will have "turned pro."
- 9) Where there are three or more people involved in a particular HPS, a set of explicit values and ideologies about what the system does and why it does it will tend to arise.
- 10) Communication from members to outsiders about how and why the HPS operate as it does will tend to be in platitudes and generalities, or by means of shown rather than telling. Members will feel and often say, "There's no way I can explain it to you."
- 11) Hours of work, intensities of effort, and other style variables will tend to be determined by the imperatives of Hypotheses 1, 2, 3, 4, 5, 6, and 8, rather than by external agencies that ostensibly "govern" the system.

- 12) Members will report “peak experiences” in connection with their participation in the HPS. They will “enthuse,” “bubble,” “communicate joy and exultation.”
- 13) Performance breakthroughs occur in unplanned ways. Hypothesis 12 will be especially obvious on these occasions. Members will account for the event in relatively nonoperational idioms, such as “we finally got it all together.”
- 14) The inanimate elements of the system are often anthropomorphized by members of an HPS. Machines become people. Various elements are assumed to have a psychology all their own to which a member feels he must relate. (For example, ships are always women).
- 15) A member, therefore, develops a personal relationship between himself and his equipment. (“A pole is a very personal thing to a pole vaulter”—Bob Seagren.)
- 16) Observers may come to feel that members “live, eat, sleep, and breathe” the activity. This perception on the part of observers is an important clue that members may be involved in an HPS.
- 17) External controls on the activity of the HPS are seen by members as at best irrelevant, and at worst as positive impediments to performance. Circumvention of the rules tends to be overt and non-apologetic (see hypotheses 27 and 28).
- 18) Members may seem to possess general abilities that can be transferred to other systems. This assumption is often incorrect. A .350 hitter is not just a .350 hitter, typically, but a .350 hitter in context.

- 19) The system does not have a clear OFF/ON character. Members may regard it as ON when it seems OFF to observers, and OFF when it seems ON.
- 20) Members seek relief from the pressures of participation in the HPS according to criteria that are internal to the system—e.g., its current phase of operations and the needs and expectations of other members. External schedules for relief and breaks are usually regarded by members as inappropriate.
- 21) In HPSs, the activities involved in task performance and the activities involved in fellowship and the maintenance of social solidarity within the system may be the same activities to a much greater extent than in non-HPSs.
- 22) Leaders in HPSs will tend to be persons who are perceived by members as experts in the techniques of the system's basic activity. A leader's initial status, influence, credibility, and prestige will derive from the demonstration of expertise.
- 23) Leaders of HPSs will not be "generalists," i.e., perceived by members as no longer fully expert in performing the system's basic activities.
- 24) The process of leadership in an HPS will tend to be by example and precept. Leaders will be perceived by members as "pacesetters."
- 25) Members of HPSs will exhibit a consciousness of the history, tradition, and lore of the system's activity and perhaps of the particular system itself (e.g., "putting on the Yankee pinstripes"). Members' consciousness of the system's lore may persist long after a particular system has ceased to be an HPS.

- 26) Where there are any systems performing a similar set of activities, a “hall of fame” phenomenon will arise. Membership in the hall of fame will tend to be associated with membership in an HPS.
- 27) The social value of the output of an HPS is problematic. Entities in the HPSs’ environment will not automatically be “pleased” with its output.
- 28) Efforts on the part of entities in the HPSs’ environment to call forth a particular kind and quality of output will tend to depress motivation in the HPS unless the function described in Hypothesis 29 is performed with extraordinary care and effectiveness.
- 29) HPSs will tend to evolve various boundary roles for mediating their relations with the environment: managers, handlers advance men, press agents, etc.
- 30) Members of HPSs will tend to discover potentialities in their technology and their separate talents that are not predictable by observers, or deducible by examining the characteristics of various elements taken singly.
- 31) Members will be found adding to and elaborating upon the inanimate objects of an HPS. They will invent a variety of jigs, props, fixtures, and signaling devices that function to improve their relation to the inanimate objects—make the inanimate objects work better of last longer.
- 32) Members tend to engage in a wide range of maintenance activities on themselves and on the inanimate elements of the system. Maintenance is co-mingled with performance and is not experienced by members as a necessarily separate function.

- 33) Performances may be called forth from the inanimate side of an HPS that may seem impossible. Physical laws may seem to be broken. Such is not the case, but rather the true constraints of physical laws are misperceived by observers, owing to Hypothesis 34.
- 34) Unless an observer is a trained performer, he cannot detect all the actions that go into the operation of the system, and often he cannot detect any but the most overt and prominent actions.
- 35) Some observers will be fascinated by the hidden character of system actions and will evolve research techniques (e.g., videotape instant replay) for investigating the system's operation more closely. HPSs in particular will excite such curiosity. Some observers will become knowledgeable "buffs" in regard to the HPSs' action and may come to play critical boundary roles with respect to the system's wider environment.
- 36) Members may tend to develop scenarios of desirable states for the HPS to be in. A considerable amount of apparently meaningless behavior can be explained as attempts to realize these scenarios. The function of all such attempts is to prepare members to participate in the system's operation and to sustain them through its difficult moments.
- 37) In terms of McLuhan's (1964) hypothesis that some technologies are "hot" in the sense that their effect on a person requires little physical/psychological participation by him, members of HPSs will tend to experience the

technologies of their systems as relatively “cool,” i.e., that the meaning of the activity is in the doing of it.

- 38) Members of an HPS may tend to have a powerful aesthetic experience regarding the inanimate objects of the system and/or the system’s operation. As this process unfolds for members, they may acquire aesthetic motivation with respect to the system and seek the experience rather than merely receive it.
- 39) Hypothesis 38 may be broadened to suggest that certain kinds of motivation which are not detectable in other settings may be found in HPSs. to the extent that members find participation in the HPS thrilling, they may become “thrill seekers.” Activity in the HP/s may provide a wide variety of sensual, affective, and cognitive experiences that, over time, members may become “motivated” to attain and re-experience. For the most part, these kinds of motivation may be relatively incomprehensible to observers. They may come to regard members so motivated as “weirdos” or “mystics.”
- 40) When an HPS ceases to perform to its former degree of effectiveness, members will go through various stages of feeling and behavior in reaction to the decline. One such stage will be the phenomenon of “pressing.”
- 41) When a person has been the leader of an HPS for an extended period, he will become a quasi-mythical figure, embodying in his person much of the meaning that the work of the HPS possesses for members and aficionados.

- 42) Processes of attention in system members will have some attributes that are absent or dormant in non-HPSs.
- 43) The sense of the passage of time will correlate with the perceived temporal process of system performances and will not be a set of awarenesses apart from system operation. In short, boredom and anticipatory anxiety will tend to be absent.
- 44) The meaning to a member of his own and other members' behavior will be a function of system activities rather than a function of "personal values" or the norms of the wider culture.
- 45) Many behaviors will be automatic to the degree that a member cannot account later for how or why he did them.
- 46) Marvin Weisbord has suggested that in HPSs people keep track of their performance in ways that may be internal and very personal, i.e., involving a highly personalized coding system that may have little meaning to anyone else.
- 47) HPSs exhibit a rhythm of operation that is both subjectively felt by members and objectively evident to observers. An argot will exist for describing this rhythm, for example, "tempo" (chess), "footing" (yacht racing), "wailing" (improvisational jazz), "getting it on" and "grooving"—and note that "grooving" has been extended in its application to many other activities—"taking it to ...(the opposing team), "traction" (term coined by W. Baldamus, 1951, pp. 45-47, to account for the tendency of an assembly line job to pull



the worker along), “hitting one’s stride,” “having a hot hand” (basketball), and “mounting a charge” (gold). The general phenomenon to which these terms refer is that the same or improved effects are produced with substantially less effort than before the particular rhythm was achieved (McCall and Lombardo, 1978, p. 108).

## APPENDIX B

### Motivation Sources Inventory (MSI)©

#### *Intrinsic Process*

- 06 I only like to do things that are fun.
- 11 If I didn't enjoy doing my job at work I would leave.
- 16 I often put off work so that I can do something else that is more fun.
- 21 When choosing jobs I usually choose the one that sounds like the most fun.
- 31 The people I choose to spend my time with are the most fun to be with.
- 51 If choosing between two jobs, the most important criteria is 'which is more fun?'

#### *Instrumental*

- 07 Job requirements dictate how much effort I exert during work.
- 12 A day's work for a day's pay.
- 17 I would work harder if I knew that my effort would lead to higher pay.
- 22 When choosing jobs I usually choose the one that pays the most.
- 32 At work, my favorite day of the week is 'payday.'
- 52 People should always keep their eyes and ears open for better job opportunities.

#### *External Self-Concept*

- 03 It is important to me that others approve of my behavior.
- 08 I often make decisions based on what others will think.
- 18 I work harder on a project if public recognition is attached to it.
- 23 If choosing jobs I want one that allows me to be recognized for successes.
- 58 Those people who make the most friends have lived the fullest lives.

- 53 I give my best effort when I know that it will be seen by the most influential people in an organization.

*Internal Self-Concept*

- 04 Decisions I make will reflect high standards that I've set for myself.
- 49 It is important that I work for a company that allows me to use my skills and talents.
- 34 I try to make sure that my decisions are consistent with my personal standards of behavior.
- 29 I consider myself a self-motivated person.
- 39 I like to do things which give me a sense of personal achievement.
- 54 I need to know that my skills and values are impacting organization's success.

*Goal Internalization*

- 05 I would not work for a company if I didn't agree with its mission.
- 10 I have to believe in a cause before I will work hard at achieving its ends.
- 35 Unless I believe in the cause I won't work hard.
- 25 When choosing companies to work for, I look for one that supports my beliefs and values.
- 50 An organization's mission needs to be in agreement with my values for me to work hard.
- 55 If an organization is accomplishing missions that I agree with, it doesn't matter whether I was responsible for its success.

## APPENDIX C

### Team Performance Survey

1. Team members have interchangeable and complementary job skills and there is an extra sense of commitment to work as a team, and accomplishment of team goals.
2. Meetings are efficient and interactions are primarily to share information and best practices or perspectives.
3. Team members are considered valuable assets and appreciate the contributions others are making for the team.
4. There is a high degree of decision making, action, and follow through.
5. There are no specific team performance goals, individual responsibilities or work products.
6. There is an atmosphere of consideration and mutual respect and team members are committed to the risk of conflict and joint work products.
7. Team members have shared leadership roles.
8. There is a strong, clearly focused leader and the group discusses, decides, and delegates.
9. The desire and potential to shape team goals is present.
10. Team members are deeply committed to team goals and one another's personal growth and success.
11. Team members understand the benefits of a team approach and are moving in the direction of team building efforts.

12. There are active problem solving meetings and discussions where planning, team goals, and work products are continually discussed.
13. There is ignorance as to the benefits of a team approach and little or no commitment toward team building.
14. Employees have individual job responsibilities and individual work products.
15. Performance is based on the sum of “individual bests” and rewards are based on individual performance.
16. Team performance goals and purpose are very specific and ambitious and continually strengthened through effective communication and team building.
17. Team members perform real work together and produce joint work products.
18. There is open discussion, problem-solving and goal setting at meetings.
19. There is mutual team accountability and collective work products.
20. Meetings are ineffective with very little open discussion, problem solving or goals setting.
21. Team members are unclear about each others’ roles and responsibilities.
22. Team members feel highly motivated to give their best effort and feel the team experience and work is particularly rewarding.
23. There are individual work products and individual accountability.
24. The team refers to itself publicly as a “team” even though privately, its members will admit otherwise.
25. Team members have essential skills to accomplish team goals and are equally committed to a common purpose and working approach.

- 26. There are specific work products but only individual accountability.
- 27. Team members are committed and prepared to do real work together.
- 28. The work products and results of the team's effort exceeds all performance expectations and goals.
- 29. Employees are committed toward individual goals and there is no specific requirement to form a team.
- 30. There is little or no mutual accountability among team members for work products and members typically blame one another or the leader for team's faults.

## APPENDIX D

### Survey Document

Part I: Please answer the following questions by checking the appropriate answer.

1. I currently belong to a team in the workplace (my place of employment). This team may be described as a work team, work group, high-performing team, or other variations of similar wording.

2. I have individual functions or job responsibilities that I alone am accountable for in addition to my team assignment.

Part II: Please answer the following questions by checking the appropriate answer (strongly agree, agree, neutral, disagree, strongly disagree). You are not required to answer every question; however, it is strongly encouraged and greatly appreciated that you do so. **These questions relate to you personally, including your individual and team assignments in the workplace.**

3. I only like to do things that are fun.

4. If I didn't enjoy doing my job at work I would leave.

5. I often put off work so that I can do something else that is more fun.

6. When choosing jobs I usually choose the one that sounds like the most fun.

7. The people I choose to spend my time with are the most fun to be with.

8. If choosing between two jobs, the most important criteria is 'which is more fun?'

9. Job requirements dictate how much effort I exert during work.

10. A day's work for a day's pay.

11. I would work harder if I knew that my effort would lead to higher pay.

12. When choosing jobs I usually choose the one that pays the most.

13. At work, my favorite day of the week is 'payday.'

14. People should always keep their eyes and ears open for better job opportunities.

15. It is important to me that others approve of my behavior.
16. I often make decisions based on what others will think.
17. I work harder on a project if public recognition is attached to it.
18. If choosing jobs I want one that allows me to be recognized for successes.
19. Those people who make the most friends have lived the fullest lives.
20. I give my best effort when I know that it will be seen by the most influential people in an organization.
21. Decisions I make will reflect high standards that I've set for myself.
22. It is important that I work for a company that allows me to use my skills and talents.
23. I try to make sure that my decisions are consistent with my personal standards of behavior.
24. I consider myself a self-motivated person.
25. I like to do things which give me a sense of personal achievement.
26. I need to know that my skills and values are impacting organization's success.

Part III: Please answer the following questions by checking the appropriate answer (strongly agree, agree, neutral, disagree, strongly disagree). You are not required to answer every question; however, it is strongly encouraged and greatly appreciated that you do so. **These questions relate to your team assignment in the workplace only.**

27. Team members have interchangeable and complementary job skills and there is an extra sense of commitment to work as a team, and accomplishment of team goals.
28. Meetings are efficient and interactions are primarily to share information and best practices or perspectives.
29. Team members are considered valuable assets and appreciate the contributions others are making for the team.
30. There is a high degree of decision making, action, and follow through.



31. There are no specific team performance goals, individual responsibilities or work products.
32. There is an atmosphere of consideration and mutual respect and team members are committed to the risk of conflict and joint work products.
33. Team members have shared leadership roles.
34. There is a strong clearly focused leader and the group discusses, decides, and delegates.
35. The desire and potential to shape team goals is present.
36. Team members are deeply committed to team goals and one another's personal growth and success.
37. Team members understand the benefits of a team approach and are moving in the direction of team building efforts.
38. There are active problem solving meetings and discussions where planning, team goals, and work products are continually discussed.
39. There is ignorance as to the benefits of a team approach and little or no commitment toward team building.
40. Employees have individual job responsibilities and individual work products.
41. Performance is based on the sum of "individual bests" and rewards are based on individual performance.
42. Team performance goals and purpose are very specific and ambitious and continually strengthened through effective communication and team building.
43. Team members perform real work together and produce joint work products.
44. There is open discussion, problem-solving and goal setting at meetings.
45. There is mutual team accountability and collective work products.
46. Meetings are ineffective with very little open discussion, problem solving or goals setting.
47. Team members are unclear about each others' roles and responsibilities.

48. Team members feel highly motivated to give their best effort and feel the team experience and work is particularly rewarding.
49. There are individual work products and individual accountability.
50. The team refers to itself publicly as a “team” even though privately, its members will admit otherwise.
51. Team members have essential skills to accomplish team goals and are equally committed to a common purpose and working approach.
52. There are specific work products but only individual accountability.
53. Team members are committed and prepared to do real work together.
54. The work products and results of the team’s effort exceeds all performance expectations and goals.
55. Employees are committed toward individual goals and there is no specific requirement to form a team.
56. There is little or no mutual accountability among team members for work products and members typically blame one another or the leader for team’s faults.

## APPENDIX E

Capella University  
225 South 6<sup>th</sup> Street, 9<sup>th</sup> Floor  
Minneapolis, MN 55402

### Waiver of Informed Consent

You are invited to participate in a research study on the relationship between individual motivation and level of team development, by anonymously completing a brief survey.

#### PARTICIPATION:

Participation in this study is open to all employees of your organization if two requirements are met: (a) the employee must belong to a team in the organization, with team responsibilities, and (b) the employee must have additional individual responsibilities in the organization that are not team related. As this is an initial study to determine if there is a relationship between individual motivation and level of team development, all participants meeting these requirements will be allowed to participate.

Those that choose to participate in the study will be invited complete a web-based survey instrument, consisting of 56 questions. It is anticipated that the survey will take no longer than 30 minutes to complete.

#### BENEFITS AND RISKS:

Your participation in this project contributes to increasing the understanding of the relationship between individual motivation and level of team development.

There are no foreseeable risks associated with this study.

#### CONFIDENTIALITY:

All results will be reported in anonymously, and the confidentiality of your individual responses will be strictly protected. Data will be stored securely on a protected website; only the researcher will have access to it. All written data will be destroyed after seven years.

#### CONTACT:

If you have any questions about the individual motivation and level of team development project or procedures, you may contact the Principal Investigator, Don Furman, 19 Aquarius Street, Monroe, NY, 10950; or via e-mail at [dfurman@frontiernet.net](mailto:dfurman@frontiernet.net); or phone: 845-782-8996. You may contact the Mentor for this project or the Capella University Institutional Review Board (IRB) with any concerns. The mentor, Dr. Henry can be reached via the School of Business and Technology office. The IRB may also be reached via the School of Business and Technology office of Capella University at 1-888-CAPELLA; via e-mail at [businessandtechnology@capella.edu](mailto:businessandtechnology@capella.edu); or via mail at Capella University, 225 South 6<sup>th</sup> Street 9<sup>th</sup> floor, Minneapolis, MN, 55402.

#### VOLUNTARY NATURE OF PARTICIPATION:

Your participation in this study is voluntary; you may refuse to participate without penalty. If you decide to participate, you may withdraw at anytime without penalty.

#### CONSENT:

I have read this form and by clicking on the “agree” button below agree to take part in this study.

☐ I agree

☐ I decline to participate in this survey